

AMERICAN Railroad Journal.

ESTABLISHED 1831.

Steam Navigation, Commerce, Finance, Banking, Machinery, Mining, Manufactures.

SECOND QUARTO SERIES.—VOL. XXXVIII, No. 28.]

NEW YORK, JULY 22, 1882.

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CONSTRUCTION.

THE St. Louis and Texas Narrow-Gauge Railroad was completed on the 16th inst., to the Mississippi River at Bird's Point.

THE main line of the Canadian Pacific Railway was completed to Broad View, 125 miles west of Brandon, on the 17th inst.

THE Pennsylvania and Martin's Creek Railroad, extending from Bangor to Martin's Creek, Penn., will be completed this year.

THE Central Iowa Railroad Company has just laid 40 miles of rail on the Eastern Division Mississippi Extension, which will be in operation by Sept 1.

THE Oregon Trans-Continental Company has nearly completed about two hundred miles of branch roads, and expects this year to build some four hundred miles.

THE Scioto Valley Railroad Company have decided to extend the line from Columbus, Ohio, to Fort Wayne, Ind., increasing its length from 150 miles to 300 miles.

ALL the heavy work of the Atlantic and Pacific Railroad in Arizona is reported completed, and the road is graded to within fifty miles of the Great Colorado River. Track-laying proceeds at the rates of 1½ miles per day.

THE Mount MacGregor Railroad, a narrow-gauge road, about two miles in length, extending from Saratoga, N. Y., to Mount Morris, was formally opened on the 17th inst. The grades on this road in some places exceed 400 feet to the mile. The celebration was held on the mountain top.

THE Cumberland (Md.) News says that the Hampshire and Baltimore Coal Company are engaged in making a track to connect with the George's Creek and Cumberland Railroad at Midland, and will hereafter ship by that road from their mine at that point.

THE Annapolis (Md.) Republican says that the construction of the Curtis' Creek line by the Baltimore and Ohio Railroad Company is regarded by some as a movement that will eventually result in connecting Annapolis with Curtis' Creek by way of the Severn, opposite the Naval Academy, a distance of about fifteen miles.

THE contractors are pushing the grading of the Northern Pacific Railroad to the utmost. The bore of the Big Horn is completed. It is 1,150 feet long, and was the most serious obstacle between Glendive and the Rocky Moun-

tain division. Grading to Benson Landing, 340 miles from Glendive, is also finished. Thirty-six hundred men and 2,200 mules are employed in the completion of the work.

ANOTHER set of surveys for the new line of the Baltimore and Ohio Railroad, between Wilmington and Philadelphia, has just been finished along a route from Cherry Island Flats to Chester, where it is proposed to use the old line of the Philadelphia, Wilmington and Baltimore, now leased by the Reading Company, for freight transportation. It is said that two tracks will be constructed—one on each side of the present freight road—so as to evade the penalty of \$100,000 for using it as a passenger road.

It is said that an arrangement has been effected between the Baltimore and Ohio, and the Pittsburgh, Wheeling and Kentucky Railroad companies, that will permit of the immediate extension of the latter road to Benwood, West Virginia. The agreement is simply a slight modification of a former ordinance passed by the Wheeling council in this behalf, locating the track of the Pittsburgh, Wheeling and Kentucky road fifteen feet farther west of the Baltimore and Ohio Railroad—or forty feet instead of twenty-five.

INCORPORATION.

THE Gulf, Colorado and Santa Fe Railway Company has filed in Austin, Tex., an amendment to its charter providing for the purchase of the Chicago and Texas and Mexico Railway, also providing for extending a branch line from Cleburne to Dallas, Greenville, Paris and through Lamar county to the Red River.

THE United States Rolling-Stock Company has organized another company to work in conjunction with it, to be known as "The United States Car Trust Company." It is the design of the company to build cars for railroads on a long-time credit basis. The capital stock of the new organization is \$1,000,000.

ARTICLES of association of the Kankakee Valley Railroad Company were filed with the Secretary of State of Indiana, on the 15th inst. The capital stock of the new company is \$1,600,000. The road will be eighty miles long, and will run through St. Joseph, La Porte, Starke, Porter, Jasper, Lake and Newton counties, in that State.

ARTICLES of association of the Fontaine Locomotive Company were filed at Detroit, Michi,

on the 3d inst. The capital stock of the company is \$1,000,000, in 40,000 shares of \$25 each, of which \$60,000 is paid in—consisting of two Fontaine locomotives, already manufactured, valued at \$30,000, and patent rights for the United States, Canada, England, Germany, France and Belgium, covering designs for constructing locomotives, etc., valued at \$570,000.

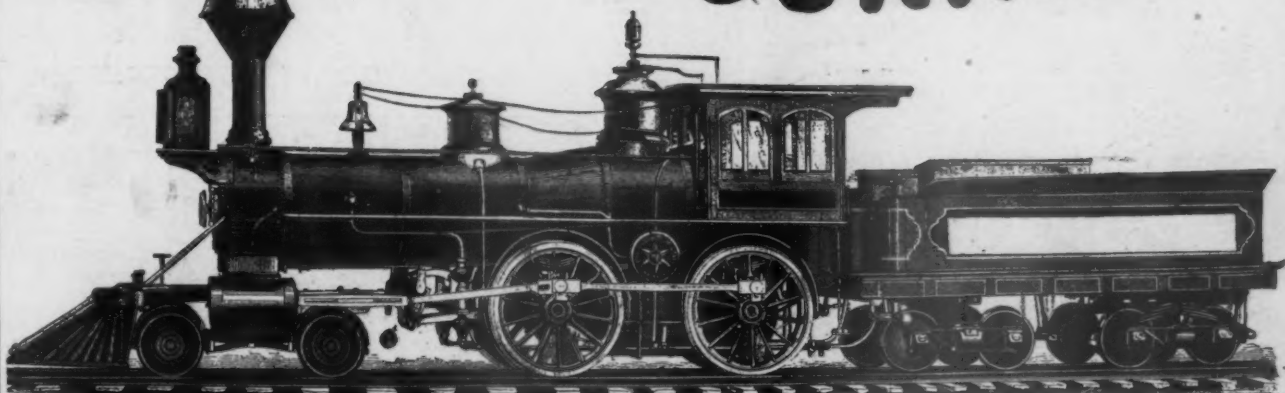
A CHARTER was filed with the Secretary of State, at Topeka, Kansas, on the 10th inst., for the Kansas and Nebraska Railway; capital stock, \$1,000,000; place of business, Fort Scott, Kansas. The proposed route is from Fort Scott northwesterly through the counties of Bourbon, Allen, Lynn, Anderson, Coffey, and Osage to Topeka; thence through the counties of Shawnee, Jackson, Pottawatomie, and Nemaha to Lincoln, Nebraska, a total distance of 280 miles.

ARTICLES of incorporation have been filed with the County Clerk of San Joaquin county, Cal., of the Stockton and Mount Diablo Railroad Company, organized to build a road from Stockton to Mount Diablo, in as nearly a direct line as possible, across Roberts and Union islands. The directors are A. C. Paulsell, J. L. Beecher, J. R. W. Hitchcock, George H. Castle, I. R. Wilbur, J. W. Ferris, L. M. Morse, J. M. Garwood, D. Harrison, S. Dunham and J. U. Castle. Each director has paid in the sum of \$4,000, being 10 per cent of the capital stock.

THE Governor of Pennsylvania has issued charters to the following narrow-gauge railway companies: The Addison and Northern Pennsylvania Railway Company, which, under its articles of incorporation, is authorized to build a road 30 miles long, extending from Steuben county, New York, through Tioga county, Pennsylvania, to Pine Creek. The Pine Creek and Tioga Railroad Company, which proposes the construction of a road 36 miles in length, from Pike Mills, Potter county, down the valley of Pine Creek to Babb's Mills, Tioga county. The capital stock of each company is \$250,000.

THE Adirondack Company, which was incorporated October 24, 1863, and recently sold under foreclosure, has been reincorporated under the title of "The Adirondack Railway Company," by William Stephens, William W. Durant, Edward C. James, Charles Tuttle, Warren Beman, Thomas C. Durant, George T. M. Davis, Silas Seymour and Walter F. Shibley. The capital stock is \$4,000,000 in

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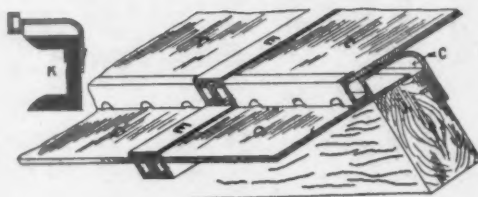
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shares of \$100 each, and none of such shares shall be preferred, but all shall be common stock, entitling the shareholders to equal rights. The duration of the corporation is to be for 100 years. Nearly 63 miles of road are already in operation, extending from Saratoga to North Ford, N. Y., and it is now proposed to extend it through Warren, Hamilton, St. Lawrence and Franklin counties, to the St. Lawrence River at Ogdensburg, a distance of 185 miles.

Four new railroad companies have been chartered by the State Department at Harrisburg, Penn., viz: The State Line, Brookland and Pine Creek Railroad Company, 12 miles long, narrow-gauge, located in Potter county; Goodrich H. Bush, of Massachusetts, president; capital, \$120,000. The Pike Mills and Kettle Creek Railroad Company, running from Pike Mills, Potter county, to Westport, Clarion county, 40 miles, narrow-gauge; C. H. Bushell, of New Haven, president; capital, \$250,000. The Sinnemahoning and Pine Creek Railroad Company, running along the west branch of Pine Creek to source of the Sinnemahoning in Potter county; D. D. Warren, of Springfield, Mass., president; capital, \$200,000. The Garfield and Cherry Grove Railroad, running from a point on the Philadelphia and Erie, near Sheffield, Warren county, to Garfield, 15 miles; Goodrich H. Bush, of Westfield, Mass., president; capital, \$200,000.

The Farmville and Staunton River Railroad Company was incorporated by the last Legislature of Virginia. The charter calls for a narrow-gauge railroad from Farmville through Prince Edward and Charlotte counties, to Brook Neal, on Staunton River, in Campbell county. The road will pass by Hampden-Sidney College, Union Theological Seminary, Smithville, or Charlotte Court House. It will be about 40 miles long and opens up convenient traffic with some of the best tobacco country in the State. The company has recently been formed with Maj. A. R. Venable, president; R. C. McKinney, secretary, and the following board of directors: Col. J. P. Fitzgerald, Dr. J. L. White, W. G. Dunnington, C. M. Walker, B. S. Hooper, of Farmville; Dr. Joseph B. Eggleston, Hampden-Sidney, and W. R. Green, J. W. Eggleston, M. M. Martin, J. D. Davis, Charlotte. Farmville has almost unanimously voted a subscription of \$50,000 and Charlotte is asked to vote \$70,000, and about \$5,000 has been subscribed by private parties.

CHARTERS have been granted by the State Department at Harrisburg, Penn., to the Bradford and Tiona Railroad Company, the Garfield and Tionesta Railroad Company, and the Tionesta and Clarion Railroad Company. The Bradford and Tiona Railroad is to run from a point on the Olean, Bradford and Warren Railroad between Marshburg and Anderson, in McKean county, thence to Tiona (connecting with the Garfield and Cherry Grove Railroad on the line of the Philadelphia and Erie Railroad, authorized to be constructed under a recent charter). The gauge shall not exceed three feet, and the length is placed at 12 miles. The capital stock is \$300,000, and the number of

shares 3,000. The following is a list of the directors: Alonzo J. Wilcox, president; Arthur F. Allen, Richard E. Whitely and Nathan Bushnell, Bradford, Pa.; William Dent, Brookland, Pa.; Asahel N. Cole, Wellsville, N. Y.; C. S. Bushnell, New Haven, Conn.; Alfred D. Tingle, New York; Daniel D. Winter, Springfield, Mass. The Garfield and Tionesta Railroad, narrow-gauge, is to commence at or near Garfield, Cherry Grove Township, Warren county, and to run to Tionesta village, at the confluence of Tionesta creek and Allegheny River, Forest county. It is to be 28 miles long, and the capital stock is put at \$300,000. The directors are as follows: Asahel N. Cole, president, Wellsville, N. Y.; Alonzo J. Wilcox, Arthur F. Allen, Richard E. Whitely and Nathan Bushnell, Bradford, Pa.; William Dent, Brookland, Pa.; Roswell P. Crofts, Holyoke, Mass.; Goodrich H. Bush, Westfield, Mass.; Alfred D. Tingle, New York. The Tionesta and Clarion Railroad is to be run from Eagle Rock, on the Buffalo, Pittsburgh and Western Railroad, to Fairmont, in Clarion county, a distance of fifty miles. The proposed course is through portions of Clarion, Forest and Venango counties. The capital stock is \$1,000,000, divided into 20,000 shares. The principal office is to be in Philadelphia. Following is a list of directors: John W. Jones, president; George F. Tyler, E. A. Rollins, B. K. Jamison, C. H. Clark, H. M. Sill and Joseph R. Trimble, Philadelphia, Pa.; Archer N. Martin, Summit, N. J.; H. A. V. Post and Charles Pomeroy, New York.

ORGANIZATION.

At the annual meeting of the stockholders of the Wilmington (Del.) City Railway Company, held on the 11th inst., the following gentlemen were re-elected directors: James Bradford, William Canby, John H. Adams, Washington Jones, John Jones, Joshua T. Heald and Eli Garrett.

The new board of directors of the Nevada and Oregon Railroad Company organized at Reno, Nevada, on the 17th inst., by the election of the following officers: D. W. Balch, of Nevada, president; F. F. Fowler, of New York, vice-president; A. H. Manning, of Nevada, treasurer; George A. King, of Nevada, secretary.

At the recent annual meeting of the stockholders of the Portsmouth, Great Falls and Conway Railroad Company in Portsmouth, N. H., E. B. Phillips, S. C. Lawrence, W. P. Phillips, G. E. B. Jackson and John Cumnock were chosen directors. The time of the annual meeting was changed to the first Monday in June.

The directors of the Cincinnati and Eastern Railroad Company, recently elected, are: W. R. McGill, W. J. Marshall, O. H. Hardin, Wm. Mansfield, J. P. Duckwall, J. W. Henley, N. R. Thomson, F. M. Smith, J. M. Neely, M. Jamieson, G. H. Wilber, N. W. Evans. The officers are: W. R. McGill, president; Wm. Mansfield, secretary; G. W. Wilber, superintendent; M. Jamieson, treasurer.

At the annual meeting of stockholders of the Winchester and Strasburg Railroad Com-

pany, held in Baltimore on the 5th inst., Robert Garrett was elected president in place of John King, Jr., resigned, and Thomas Whittridge, Hugh Sisson, J. A. Sherrard, George A. Hupp and John Gregg were elected directors for the ensuing year. The Winchester and Strasburg Railway Company is one of the leased lines of the Baltimore and Ohio.

At the annual meeting of the Northern, Northwestern and Sault Ste. Marie Railway Company, held in Toronto, Canada, on the 4th inst., the following board of directors was re-elected: Adam Brown, Wm. Ince, N. Barnhart, W. B. Scarth, A. R. Baswell, Hon. A. Morris, John Fiskien, A. McInnis, Wm. Hendrie, Dalton McCarthy, W. E. O'Brien and J. Proctor. At a subsequent meeting of the directors Adam Brown was elected president, and Wm. Ince, vice-president.

The officers of the New Meriden and Cromwell Railroad Company recently elected are as follows: President, H. C. Wilcox; vice-president, Charles Parker; Secretary, Charles L. Rockwell; treasurer, A. Chamberlain; auditor, O. B. Arnold. Executive Committee, H. C. Wilcox, D. W. Parker, N. L. Bradley, Samuel Dodd and George W. Lyon. The capital stock of the company is \$300,000, all taken and 10 per cent paid in. The work of building the road will be pushed forward as speedily as possible.

The directors of the Kankakee Valley Railroad Company, recently organized at La Porte, Ind., are: Clem Studebaker, J. M. Studebaker, Judge Stanfield and A. S. Baker, of South Bend; Gen. Gleason, W. B. Biddle, E. H. Scott and M. N. Nye, of La Porte; W. E. Renney, of Valparaiso, Thomas J. Wood, of Crown Point, Gen. G. W. Cass, W. F. Singleton and E. Lamphere, of Chicago. The object of that company is to construct a railroad from South Bend to Momence, Ill., along the Kankakee River; capital stock, 1,600,000.

The Oil Exchange, which was organized in Philadelphia over a month ago, was formally opened on the 19th inst. It has a membership of 100. The directors are: S. S. Wenzell, Samuel W. Powell, Malcom Lloyd, H. L. Davis, John Gill, Jr., A. H. Logan, Edward C. Street, H. C. King, John S. Davis, Samuel Q. Brown, John Large and R. D. Allen. The officers are: President, W. H. Smith; vice-president, W. N. Viguers; second vice-president, Junius R. Clark; treasurer, John H. Waugh; secretary, Alfred Newhouse. The rooms of the Exchange are at 222 Walnut street.

At a meeting of the stockholders of the National Railway Signal Company, held at its office in Nashua on the 13th inst., the following persons were elected directors for the ensuing year: Cyrus S. Haldeman, Elisha S. Converse, O. M. Shepard, J. Henry Read, O. M. Wentworth, Arthur P. Wilson, John B. Johnson, George W. Barnes, and John L. Ambrose. Subsequently Cyrus S. Haldeman was elected president; Elisha S. Converse, vice-president; Joseph B. Parker, clerk, and A. P. Wilson, secretary and treasurer. The business management will be in the hands of the president, with a local office in Boston.

The New York Iron and Metal Exchange was

formally opened on the 11th inst., and on the 12th commenced the regular transaction of business. The officers are: Edward P. White, president; Maurice B. Flynn, vice-president; T. Delafield, treasurer, and Edward J. Shriver, secretary. The board of managers consists of William W. Snow, Carl Mayer, B. B. Leman, Henry A. Rogers, J. P. Robinson, Jr., Alston Gerry, John D. Fraser, Edward Hill, H. B. Moore, George V. Tompkins, A. G. A. Har-nickell, and J. H. Whitney. The rooms of the Exchange are at the corner of Pearl street and Burling slip. There are to be two daily "calls" of pig iron, old rails and scrap iron, crop ends, tin, copper, lead and spelter. These articles will be bought and sold for future delivery, the same as cotton and wheat.

CONSOLIDATION.

THE text of the agreement between the Great Western Grand Trunk Railway companies is published. It provides that it shall go into effect August 12, 1882; that the name of the consolidated company shall be "the Grand Trunk Railway of Canada;" that there shall be fourteen directors for the united company; that the first directors of the united company shall be Sir Henry Whatley Tyler, M. P., Sir Charles Lawrence Young, baronet; Lord Claud John Hamilton, M. P.; Robert Young, Robert Gillespie, William Unyan Heygate, James Charles, the Right Hon. David Robert Plunket, M. P., the Hon. James Ferrier, Viscount Bury, Henry Doughty Browne, Colonel Edward Chaplin, John Marnham and Major Alexander George Dickens; that all the officers and servants of the Trunk Company and the Western Company shall after the date of the union become the servants of the united company at the salaries or wages and upon the terms at and upon which they were previously employed by the Trunk Company or the Western Company as the case may be.

Anthracite Coal Tonnage.

THE following is an official statement of the anthracite coal tonnage for the month of June, 1882, compared with the same month in 1881:—

	June, 1882.	June, 1881.
Reading Railroad.....	556,466	586,012
Lehigh Valley Railroad.....	560,865	484,404
Central Railroad of New Jersey.....	404,483	360,040
Delaware, Lackawanna and Western.....	428,457	368,352
Delaware and Hudson Canal.....	270,600	239,899
Pennsylvania Railroad.....	220,830	210,249
Pennsylvania Coal Co.....	132,830	127,132
New York, Lake Erie and Western Railroad.....	21,155	42,148

Total..... 2,625,039 2,418,238

The following is the statement for the year 1882, compared with the year 1881:—

	1882.	1881.
Reading Railroad.....	2,906,674	2,925,086
Lehigh Valley Railroad.....	2,619,692	2,498,403
Central Railroad of New Jersey.....	1,888,373	1,831,409
Delaware, Lackawanna and Western.....	2,019,258	1,948,484
Delaware and Hudson Canal.....	1,365,371	1,416,288
Pennsylvania Railroad.....	1,056,799	1,033,924
Pennsylvania Coal.....	604,879	591,578
New York, Lake Erie and Western Railroad.....	106,803	222,007

Total..... 12,567,851 12,467,496

The stock of coal on hand at tide-water shipping points, June 30, 1882, was 583,986 tons; on May 31, 1882, 611,441 tons—decrease 27,505 tons.

The following statement shows the amount of anthracite coal distributed to Western United States points and the Dominion of Canada in 1881, representing shipments by lake and rail from Buffalo, Erie, Salamanca, Dunkirk, Pittsburgh, Baltimore and Lake Ontario points; also showing general distribution of entire production of anthracite coal in 1881. The following data has been compiled mainly from official sources, and represents as nearly as practicable—with present facilities for obtaining correct information—the actual tonnage as stated for year 1881:

To Western United States points:

	Gross Tons.
By lake from Buffalo.....	839,645
By rail from Buffalo and the bridges.....	616,044
By lake from Erie.....	85,030
By rail from Erie.....	166,258
By rail from Pittsburgh, Baltimore, Salamanca, &c.....	309,191
From Lake Ontario ports through the Welland Canal.....	63,146
	2,079,134

To Canadian points:

By lake and rail.....	694,428
Total to Canada and the West.....	2,773,562

General distribution of anthracite coal in year 1881, in tons of 2,240 pounds:

Competitive—including tonnage passing out of Capes of Delaware; to New York harbor; to points on the Hudson River, Long Island Sound and Atlantic coast, north of Port Ju- dith.....	12,169,030
Western—including tonnage to United States points west of Buffalo and the Detroit River, Erie, Pittsburgh and Baltimore.....	2,079,134
Canadian—including all tonnage by lake and rail to points in Dominion of Canada.....	694,428
Southern—Estimated tonnage to all points in Delaware, Maryland and the territory bound- ed by the Ohio and Mississippi River on the north and west and the Gulf of Mexico on the south.....	800,000
Pacific Coast.....	15,000
Local—Embracing all coal consumed in Penn- sylvania, New York and New Jersey.....	12,742,424
Total products in 1881.....	28,500,016

Lehigh and Hudson River Railroad.

THE gap on the Lehigh and Hudson River Railroad between Franklin Furnace and Andover, has been completed, and a train of cars passed over the entire length of the road from Greycourt, on the New York, Lake Erie and Western Railroad, to Belvidere, on the Belvidere division of the Pennsylvania Railroad, on the 14th inst. Thus the long-talked-of route from Pennsylvania to the New England States is established. From Belvidere the route runs northwest through Warren and Sussex counties, crossing the Delaware, Lackawanna and Western Railway near Bridgeville and the Sussex Railroad at Andover. At Franklin Furnace it crosses again the Sussex Railroad and the New Jersey Midland, and passes through the Warwick Valley to Greycourt, there forming a connection with the Newburg branch of the New York, Lake Erie and Western Railroad. At Newburg the cars are ferried over the Hudson River to the New England Railroad. To what extent the Pennsylvania Railroad Company will feed the new line is not known to the public; but the officers of the Lehigh and Hudson River Railroad Company claim that their road will have all the business it can carry from the Pennsylvania corporation. The rolling-stock of the new road is ready. The passenger coaches are very handsome and comfortable. Four postal cars have been built and furnished with every modern convenience for

handling the mails. Local postal agents say they are the most complete they have ever seen. In a few days regular trains will be running over the route, and arrangements will be completed for through travel without change of cars.

Curiosities of the Patent Office.

SOME of the applications made for patents are very amusing; but however funny the idea, if it is only original with the applicant the patent can be secured. The rights of the American inventor are sacred, and no commissioner of patents dares infringe upon them. It will be sad news to many a prudent housewife to learn that every time she pricks a hole in an egg with a pin she is violating the patent of an American inventor; but such is the case. Years ago an inventive genius devoted himself to discovering a method to prevent eggs from cracking during the process of boiling. He solved the problem by picking a pin hole in one end of the egg, through which the air in the shell was allowed to escape, and this pin-hole he duly patented according to law. Precisely how he manages to collect his royalty is a mystery, but the fact remains that he has a legal claim for royalty on every pin-hole made in an egg before boiling.

An application has recently been made through Munn & Co. for the patent of a machine to prevent young orphan chickens from being lonely. This is an invention which should, and probably will, commend itself to Mr. Bergh. The inventor claims that hundreds of chickens hatched out in the artificial incubators become lonely because they miss the "cluck! cluck!" of the mother hen, which is the lullaby of all well regulated chickens hatched in the natural way, and many are killed by this loneliness. He has arranged a system of clock work which produces a noise somewhat similar to that of the hen, which he proposes to attach to the incubator, and on this machine the patent is asked.

A patent has issued on a clog for fowls, designed to prevent them from scratching in gardens. It consists of a wire in the shape of a hairpin, sharp at the points. This is attached to the feet of fowl in such a way that when it attempts to scratch the points enter the ground and prevent the claws from reaching it. Hens have ever been the subject of much patient thought on the part of inventors. A nest designed to deceive them into laying more than the one egg daily, which every respectable bird contributes to the farmer's larder, has been devised and patented. It has a false bottom, through which the egg drops as soon as laid, and the patient hen, feeling that she has failed in her duty, proceeds to lay another and another until her treasury becomes exhausted or she discovers the deception. A beehive has been patented, the doors of which are attached to the hen-roost in such a manner that when the fowls go to roost they close the hive and thus secure the inmates against the ravages of the bee moth, and at daylight, when the hens leave the roost, the hive doors are opened and the bees set at liberty.

Even the faithful horse has been made the subject of optical delusions by the inventors. A patent has been secured for what is known as a horse fence. It consists simply of a wire frame placed over the head of the horse so that when he approaches a fence with the laudable desire of jumping it he sees the wires above his head, mistakes them for part of the fence, and concludes that it is too high for him to leap. These are some of the curiosities of the Patent Office. The reader who desires to investigate the subject further is respectfully referred to that highly interesting collection of literature known as the "Patent Office Reports."—*Detroit Price Current.*

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THE SUEZ CANAL AND AMERICAN COMMERCE.

IT is well understood that the English Government has two objects in its forcible intervention in Egypt: the desire to protect its Egyptian bondholders, and a feeling that it cannot afford to leave the Suez Canal to any but a subservient local government. The latter is the more worthy motive of the two, for it is a legacy derived from former times, when the maritime nations of Europe were running races of conquest and colonization. The recent collision has, however, come about through the claims of the bondholders, and is a much less defensible proceeding. The money borrowed by the former rulers of Egypt was in good part spent, not on works of public utility and permanent improvement, but on luxurious palaces, yachts, harems, theatres, and the like; in a word, in aping the vices of other European courts, which have more resources to draw from. The bondholders could not but have known this when they loaned the money—or at least they had more than the ordinary warning of lenders. It is one of the assumptions of monarchy that the subject people are bound to pay the debts incurred by their sovereign rulers, whether incurred for personal gratification or national purposes; but international law does not sanction the use of force by one nation, to enable its subjects to collect money debts from another. This is, however, in part, what England is doing; and it does not change much the true nature of the action to say that the English Board of Control would ultimately have lightened the burden of taxation to the Egyptian serf of the soil. ARABI BEY is a rebel against an established government; but it is some mitigation of his offense that, like WASHINGTON, he is in arms to deliver his country from the oppressive load of taxation imposed by foreigners to pay debts incurred at ruinous rates for extravagances. He probably would not do any better if he had sway, but for the moment his attitude is patriotic.

England, besides, holds by her proprietary purchase, the majority interest in the Suez Canal; and it is to secure the uninterrupted use of it that she seeks to maintain the corrupt and feeble government of TEWFIK against the wish of the people. It ought not to be a difficult task to place the forty-mile strip of territory occupied by the canal under some military protection (say that of France and England, or still better that of Italy), and leave the Turks and Egyptians to themselves; but the etiquette of European diplomacy is such an intricate, and at the same time absurd, complication, that many difficulties are liable to arise

both before and after it is done. The thing now attempted is to set up a governor in Egypt who will protect the canal. This requires the consent of Turkey, and altogether the future of the canal is pregnant with possibilities. The Suez Canal and the Dardanelles passage ought to be taken out of the control of the Mahometans, as much so as the Straits of Gibraltar, but fierce and fanatical wars may come before it is achieved.

The fate of the Suez Canal throws an additional importance upon the canals and railroads across the American isthmus. The French company which has undertaken to construct the canal at Panama commenced operations by purchasing the control of the railroad at that point. The work of actual excavation of the canal makes slow progress compared with the preliminary flourish of trumpets; and as the same parties have control of the Suez water course, which pays ten per cent dividends, and the Panama Railroad which earns twenty-five per cent dividends, there is no great loss, but some profit to follow, if the latter canal is not brought into use for the next fifty years.

The only competition presented to these two isthmus routes, aside from the original navigation round capes Horn or Good Hope—routes which are not available for steamships, on account of the great supply of fuel to be taken on board—is that offered by the American Pacific railroads.

The Australian Mail now takes this route, via New York and San Francisco, the Pacific Mail Company working a branch of their steamers from the latter port to Australia. The business to and from Hindoostan could probably be better done by sea round the African cape; but that of Australia, China and Japan, and some of the Dutch East India islands, could be done more readily across the American isthmus, or by our Pacific railroads.

The overland roads across North America are multiplying. A second route—the Southern Pacific—having connections to the northern tier of lines, and also with the Gulf Navigation and Southern roads, via New Orleans, has been opened. A third—the Northern Pacific—is approaching completion. A fourth, across the Mexican State of Sonora, is to be opened within the year; and not the least of these projected roads in importance is that begun across the Mexican Isthmus of Tehuantepec, on which considerable work has been done, and which could be finished in a few months. The latest information is to the effect that the Mexican government is making an official inspection of this work with a view to assuming the entire ownership as a national military highway. It

is, as located, 150 miles from the Gulf port to the Pacific terminus, and this can probably be shortened to 140 miles. Inasmuch as the summit of the level is less than 950 feet, and once on wheels 140 miles is not much more than 57, this is a most formidable rival to the Panama Railroad and Canal, as it lies in a more genial climate, and among a more civilized people.

The projected ship railroad of Capt. Eads, and the Nicaragua Canal need hardly be mentioned in this connection, as they are far from completion; and the actual construction of the Tehuantepec line will make their chances still more remote.

The British have begun an overland road on their Honduras settlement, which, in connection with the American enterprises in Guatemala and Salvador, having the advantage of a fine capacious harbor at La Union in the Fonseca Gulf, is more likely to do an inter-oceanic business than either of the last named. The Suez route is not likely to be long interrupted; while it is, fresh attention will be turned to all these American routes, and if Suez is never disturbed some of the American routes indicated above are sure to enter into competition with it. At least one of them should be under the protection of our Government.

Curiosities of Ocean Cables.

Of the total 97,200 miles of cable in the world, some 36,420 are owned and worked by the Eastern Telegraph Company and its affiliated companies, the Eastern Extension Telegraph Company and the South African Telegraph Company. The Eastern Telegraph Company is perhaps the most enterprising of cable corporations, and makes a very fine display at the Crystal Palace, London. Cable operations have been, says *Nature*, of great assistance to the geographer, and the soundings taken in order to ascertain the nature of the sea bottom, where a cable route is projected, have enriched our charts quite as much as special voyages. There is, however, another way in which these operations could be made subservient to the cause of natural science; but it is a way which has not been sufficiently taken advantage of. Besides the specimens of stones, mud and sand which the sounding-lead brings up from the deep, the cable itself, when hauled up for repairs, after a period of submergence, is frequently swarming with the live inhabitants of the sea floor—crabs, corals, snails, mollusks and fifty other species—as well as overgrown with the weeds and mosses of the bottom.

Many an unknown species has passed over the drums unnoted to rot and fester in the general mess within the cable tanks. We venture to predict a rare harvest to the first naturalist who will accompany a repairing ship and provide himself with means to bottle up the specimens which cling to the cable as it is pulled up from the sea.

Some idea of these trophies may be gathered from the stall of the Eastern Telegraph Com-

pany, where a few of them are preserved. Two of these are a very fine gray sea snake, caught on the Saigon cable in a depth of thirty fathoms, and a black and white brindled snake, taken from the Batavian cable in twenty-five fathoms. Twisting around ropes seems to a habit of this creature, for the writer remembers seeing one scale up a ship's side out of the River Amazon, by the "painter" hanging in the water.

A good example of a feather star is also shown; these animals being frequently found grasping the cable by their tentacles. A handsome specimen of the blanket sponge picked up in the Bay of Biscay, is also exhibited. But the most interesting object of all is a short piece of cable so beautifully incrustated with shells, serpulæ and corals as to be quite invisible. It was picked up and cut out in this condition from one of the Singapore cables. The rapid growth of these corals is surprising, and some valuable information on this head might be gained if the electricians of repairing ships in these eastern waters would only make some simple observations. Curiously enough, so long as the outermost layer of oakum and tar keeps entire, very few shells collect upon the cable, but when the iron wires are laid bare the incrustation speedily begins, perhaps because a better foothold is afforded.

A deadly enemy to the cable, in the shape of a large boring worm, exists in these Indian seas, and several of them are shown by the company. The worm is flesh colored and slender, of a length from 1½ inches to 2½ inches. The head is provided with two cutting tools, of a curving shape, and it speedily eats its way through the hemp of the sheathing to the gutta percha of the core, into which it bores an oblong hole.

A full account of this particular worm, with anatomical illustrations, is given in the *Journal of the Royal Microscopical Society* for October, 1881, by Dr. Charles Stewart, secretary of the Society. The bore holes, after passing through the oakum of the inner sheathing, either pursue a tortuous course along the surface of the gutta percha core or go right into the copper wire, thereby causing a "dead earth" fault. Dr. Stewart classes the worm as one of the Eunicidæ, but proposes for it the generic name of *Lithognatha vorlei*, because of its possessing a pair of calcareous mandibles or cutting jaws, and after Captain Worsley, the commander of the repairing ship which picked up the worm-eaten cable. The pair of calcareous jaws, in addition to three pairs of chitinous ones, is the most remarkable feature about the animal, and the white plates which form them make the creature look as if it were in the act of swallowing a tiny bivalve shell.

The best protection hitherto formed against it is to cover the core with a ribbon of sheet brass, laid on without a lap. First the gutta percha is covered with cloth, then the brass is overlaid. Canvas is then put over the brass, and the hemp and iron wires over all. A close layer of iron wires is not sufficient protection, for the worm can sometimes wriggle in between wires where they are not close enough; and, moreover, the rapid decay of iron wires in tropical seas is certain to leave

the core a prey to these pests in a few years.

The Eastern Extension Telegraph Company also exhibits some interesting samples of stones picked up from the sea bottom; for example, limestone blocks and shells bored by the bivalve *Saxicava ragosa*, the worn Sabella, and the sponge *Hymeniacidon celata*; wood honey-combed by the teredo, a red stone pitted by the bivalve shell (pholas), and a ferruginous flaky stone brought up from the bottom between Penang and Singapore. Most interesting, however, of these inanimate waifs is a flat piece of black flinty rock hollowed into cup-like pits by the sucking feet of the sea hedgehog. The pits are excavated as lairs for the animal, and some of them are nearly three inches in diameter by one inch deep. To make the rocky bed softer to the feel, the hedgehog has lined it with a calcareous enamel, probably secreted by its body, much in the same way as the pearl oyster coats its shell.

In the earlier days of submarine telegraphy, Sir William Thomson declared the life of a cable to be practically inviolable; and Robert Stephenson, on the other hand, was of opinion that no cable would last out ten years. The latter view has proved the more correct, for the average life of a cable hitherto has been about eleven years. Thanks to the improved means of repairing them, however, the outbreak of faults does not mean the loss of a cable, for these flaws can be cut out in water, however deep, and the cable put to rights again. Indeed, every cable company expects a recurrence of faults, and provides a fully equipped repairing ship always on the spot.—*Scientific American*.

THE *California Architect* says that black walnut can now be manufactured very cheaply. One part of walnut peel extract is mixed with six parts of water, and the wood is coated with the solution. When the material is about half dry a solution of bichromate of potash with water is rubbed on it, and then your walnut is ready. Furniture dealers have been known to make excellent walnut from very poor pine, but the difference was slightly perceptible; however, this method is said to defy detection.

THE great iron steamboat Pilgrim, recently constructed at John Roach's ship-yard for the Old Colony Steamboat Company, is 400 feet long over all; width of beam, moulded, 60 feet; beam over yards, 88½ feet; depth of hold, 17½ feet, and tonnage, 3,600. There are two complete iron hulls, with eighty-four water-tight compartments; thirteen iron longitudinals and fourteen water-tight floors. The engine is the largest ever built, having a cylinder of 110 inches by 14 feet stroke, and will exert 4,500 horse-power at a pressure of fifty pounds. The shaft is the largest ever forged, being 28½ inches at the greatest diameter and 26½ at the least, 40 feet long, and weighs 81,000 pounds. The wheels are 45 feet in diameter and 13 feet face. There are twelve boilers, and the vessel is expected to run twenty miles per hour. She has three decks, 300 state rooms, and will accommodate 600 first-class passengers. The vessel when completed will be worth \$1,000,000, of which \$700,000 is the estimated value of the material in its crude state, the increase in value being labor.

From our Special Correspondent.]
OUR ST. LOUIS LETTER.

THE intelligence of the completion of the Denver and Rio Grande as far as Silverton has given great satisfaction, not only to the people of the sections immediately interested, but to the public in general. This road is rapidly attaining immense proportions, and its management must certainly feel proud of their labors in the way of catering to the wants of commercial and traveling men. Each quarterly statement published by the company shows up better than its predecessor, and the constantly increasing income of the line is a source of congratulation to those who transact business with it, as well as those who are fortunate enough to own stock in it. It is fast growing in popularity, and its officers seem to be all thorough railroad men. Mr. Harry White is the local agent here, and is certainly the "right man in the right place."

The Union Pacific has added one more link to its grand chain of railroads in the opening of its Denver and South Park division as far as Pitkin, by way of the great and attractive Alpine tunnel. Mr. Aglar, its popular representative here, is jubilant over this the latest acquisition of the road, and expects great results from the same.

The indignation against Gov. Crittenden, for his recent pardon of the convicted gamblers of this city, gathers fresh strength daily, and there is considerable talk now on the question of his impeachment by the next Legislature. Whatever is the outcome of the squabble, one thing, at least, is tolerably certain, and that is—Democracy in Missouri has gained nothing and lost much by reason of the Governor's action.

The general freight agent of the Vandalia line, Mr. H. W. Hibbard, reports business steadily improving, and predicts a great boom in the way of traffic in the next few weeks. There is some little stir created here by the recent movements of Mr. Hibbard. It seems that the Vandalia people have become dissatisfied with their per cent in the live stock pool out of East St. Louis. Accordingly, Mr. Hibbard voiced that dissatisfaction before Commissioner Fink, asking an increase, and the result is, the Commissioner has called a meeting of all parties concerned, to be held in New York, July 26, to adjust the matter. A red-hot time is expected, as competing lines will naturally fight against such an increase. Whether or not the opposition will avail remains to be seen, as the Vandalia has unquestionably the shortest route, in connection with the Pennsylvania, to the Pittsburgh and Jersey City markets, and it is the favorite line with shippers to those places as a consequence. In fact, it is stated that it is the only road which can take live-stock out of St. Louis sold on Monday's market, and land them in Jersey City in time for Friday's market.

There is much surprise here regarding the statement made by certain Eastern papers charging conductors of Western trains with being vulgar, discourteous, etc. There never was a more unfounded charge, and there cannot be found, as a general rule, a more gentlemanly body of men than those thus slandered.

Once more there are rumors regarding a fast mail train. It is now stated that the postal authorities, since the failure to secure a fast mail by Chicago routes west and by the Wabash, are now negotiating with a view to its establishment over the Panhandle, from New York to Cincinnati, over the Ohio and Mississippi to St. Louis, thence over the new line of the Missouri Pacific to Omaha, there to connect through to San Francisco over the Union Pacific. The carrying out of this plan would necessitate the abandonment of the proposed fast mail service over the Lake Shore road from New York to Chicago.

Murmurings and complaints reach this city all the way from Parsons, Kan. It seems that general manager Talmage, of the Missouri Pacific, issued an order compelling all employes of passenger trains on his roads to don a new style of uniform. In addition to this order, the name of an eastern firm, from whom same could be produced at \$28 per suit, was suggested, and now there is a big kick all along the line—the men claiming that they could purchase of local dealers better uniforms at \$12 a suit than they are forced to pay double for to an eastern house. It is also claimed that the goods they are thus forced to buy were made up specially for and rejected by the Pennsylvania and Reading railroads.

I spent an hour to-day in a rather novel pastime—canvassing the opinions of railroad officials as to the most popular and accomplished railroad man in the west. The unanimity with which all parties spoken to hit upon Capt. R. S. Hayes, of St. Louis, was remarkable. Mr. Hayes is second vice-president of the Iron Mountain, and all the Gould connections (embracing a number of leased and other lines), and his popularity stands out in grand contrast to the feeling entertained towards other prominent magnates. In fact, employes and officers regard him not only with profound respect, but almost with womanly affection. He avoids all display—is never a moment absent from his post—and, although filling the most arduous, responsible, and important position of any railroad man in the west, always finds a spare moment to be "at home," to the humblest attache, as well as to the most exalted caller. Dignified, courteous, and impartial to all, he is the ideal of railroaders; and of the thousands who hold positions under him, I do not think there is a solitary individual ever speaks of him except in praise.

Mr. J. F. Barrett has been appointed to the division freight agency (at Sedalia, Mo.) of the Missouri Pacific, vice Mr. L. Pearson, resigned. Mr. H. A. Johnson has been promoted to Mr. Barrett's position.

The attorney for the Etna Insurance Company obtained a judgment a few days since in the United States Court at Springfield, Ill., for \$60,000 against Johnson county, Ill., on railroad bonds.

The Chesapeake, Ohio and Southwestern Railroad, between Memphis, Tenn., and Paducah, Ky., was opened a few days since, and the event was made memorable by a grand celebration. Speeches were made by Hon. Chas. Reed, Mayor of Paducah; D. P. Hadden, Col. H. D. McHenry, Q. Q. Quigley, Barney Hughes,

Judge J. R. Morgan and Calvin Vance. The line was formerly known as the Mississippi River Railroad, then as the Memphis, Paducah and Gulf, afterward as the Memphis, Paducah and Northern, and now forms a portion of the Chesapeake and Ohio combination.

We are enjoying October weather in St. Louis, but yet the cool wave is not so pronounced here as in Chicago, where the overcoat has been substituted for the duster, and the busy housewife employs her spare moments in ferreting out and fitting together the lost joints of the stove-pipe, in view of the approach of Jack Frost.

P. H. T.
 ST. LOUIS, JULY 17, 1882.

[From our Special Correspondent.]
OUR CINCINNATI LETTER.

AN adjourned meeting of the directory of the Cincinnati and Eastern Railway Company was held a few days since at the Albany building. Hon. N. W. Evans, of Portsmouth, was in attendance, and took the oath of office. General Agent Henley presented a report from the committee at Felicity, who are endeavoring to secure the extension of the Ohio River branch of the Cincinnati and Eastern to that point. It appears that the free right of way had been obtained for a distance of six miles, and that the remaining portion of Mount Pleasant would be secured when the survey was finished. The subscriptions also have been considerably augmented. Messrs. Henry, McGill, Wilber and Mansfield were appointed Executive Committee of the Board.

A circular call has been issued by the Cincinnati, Hamilton and Dayton for a meeting of its stockholders, to be held in the office of the company, at 10 A. M., on the 16th prox., to vote on the proposition to issue \$1,000,000 worth of six per cent preferred stock, the proceeds of which issue are to be used in "betterments" of the road. It is feared by many of the common stockholders that such an issue would exercise an injurious effect upon their stock, though those advocating the proposition are of opinion that such would not result; on the contrary, they aver that the new issue could be placed on the market at a premium, and that the money thus secured would be used in obtaining new terminal advantages, proper equipment and new rolling-stock for the road, thereby increasing the general business of the road, so that in such event the common stock would be benefitted instead of deteriorated.

A conference meeting of the officers, stockholders and capitalists interested in the Cincinnati and Ohio River Railroad was recently held in the company's office in the Sinton Building. Among those in attendance were General Warner, August Goodman, General T. Ewing, Orland Smith, E. Blaine, J. McNeil, Theo. Cook, D. Sinton and J. R. Mills. The meeting, though an informal one, was of much interest to those concerned. The work on this road will in all probability commence at an early date, and engineers are already locating the line of road.

On the 13th inst. a meeting of baggage agents was held at the Grand Hotel. Among those in attendance were J. B. Browning, of Louisville, representing the Louisville, Nashville and

Great Southern; J. P. Cox, of the Cincinnati, Hamilton and Dayton; W. I. Robinson, of the Ohio and Mississippi, and J. Heglin, of the Marietta and Cincinnati. The last-named gentleman presided and Mr. Robinson acted as secretary. The action of the express companies in carrying baggage to New York was discussed at length. It seems that \$2 per hundred for this class of matter to New York is the price charged by the express companies, while the railway rate for "excess baggage" is \$3.25 per hundred. The baggage men during the day visited the offices of the express companies, but no one being found who could treat with them on the matter, it was impossible to take immediate action. The convention of the general baggage agents will meet in Cleveland on the 9th prox., when the matter will then be again brought up, and it is probable that unless the present rates are raised by the express companies, the railroad charges will be reduced in proportion. It was resolved that after August 1st all baggage left unclaimed for longer than twenty-four hours after its arrival at destination, should be charged ten cents per day for storage.

On the 14th inst., in the United States Court, a restraining order was granted by Judge Baxter against the Cincinnati, Indianapolis, St. Louis and Chicago Railroad in the suit brought by W. G. McCoy, of the Cincinnati stock-yards. The decision upon which the order was issued was given a short time since at Knoxville, and is as follows: "This cause came on to be heard upon the motion of the complainant for a temporary restraining order, as prayed in the bill, and the Court finds that said motion ought to be granted, and grants the same. It is therefore ordered by the Court that the defendant Railroad Company shall so long as said company shall continue to deliver stock to the United Railroads Stock-Yards, until the further order of the Court, desist from making any discrimination between the complainant's yards and those of the United Railroads Stock-Yards Company, and shall receive all stock consigned, or which the shippers shall desire to consign to said complainant's yards, and transport and deliver the same upon the same terms and in the same manner that stock is received and transported and delivered unto the United Railroad Stock-Yards Company, upon giving bonds in the sum of \$20,000." Messrs. J. J. Faran and J. Ryan were accepted as sureties upon the bond of Mr. McCoy for \$20,000.

A large meeting of citizens has been held at Wooster, Ohio, in consequence of a published call of the incorporators of the Killbuck Valley Railroad. Dr. J. D. Robinson was constituted president of the meeting and Mr. H. U. Clemens acted as secretary. Some appropriate speeches were delivered by General A. Wiley, A. S. McClure and other gentlemen. The proposition is to construct a railway from Wooster to Burbank, a distance of some fifteen miles, and to connect at the latter point with the New York, Pennsylvania and Ohio. The cost of the undertaking, it was estimated, will be in the neighborhood of \$50,000. Subscription-books were opened, and \$30,000 were subscribed in a short time. The residue of the

required sum will doubtless be raised ere long. Throughout the entire distance of the route the right of way has been given. The probabilities are that work will be commenced at an early date.

The large draw of the Wheeling and Lake Erie across the Maumee River was placed in position on the 15th inst., and was found to work properly. This is stated to be one of the most important steps in completing and opening the Western end of the road. The length of the structure is three hundred and forty-three feet, and its weight, together with that of its equipments, is in excess of three hundred tons. The entire length of the bridge is three thousand feet, and the cost of it will be over half a million dollars.

There has been lately quite a boom in all the stock of the grain-carrying roads, except the Cincinnati, New Orleans and Texas Pacific. Recently it was offered at 88, but could be bought for less.

Condition of Blast Furnaces in the United States.

The *Iron Age* quarterly statement of the condition of the blast furnaces of the United States on July 1st, 1882, is published in its issue of the 15th inst. The following statistics of the whole country will be found interesting:—

CONDITION OF FURNACES JULY 1, 1882.

	In blast.	Out of blast.
Charcoal.....	151	126
Anthracite.....	164	72
Bituminous.....	119	109
Total.....	434	307

This is a decided change since the first of April. At that date the condition was as follows:

	In blast.	Out of blast.
Charcoal.....	132	146
Anthracite.....	175	61
Bituminous.....	150	74
Total.....	457	281

In charcoal furnaces there has been an increase of 19, but this has no significance, as these blow in or out according to the season. When stocks of ore and coal are exhausted they go out and mine more. In anthracite furnaces there has been a decline of 11 stacks, and of bituminous 31, a most marked change, for which there is but one explanation—the strike. This change is more marked by a comparison with the condition one year ago, which was as follows:—

CONDITION OF FURNACES JULY 1, 1881.

	In blast.	Out of blast.
Charcoal.....	137	125
Anthracite.....	146	90
Bituminous.....	144	77
Total.....	427	292

For the last six years the relative condition of the furnaces on July 1, was as follows:—

FURNACES IN BAST JULY 1.

	1877.	1878.	1879.	1880.	1881.	1882.
Charcoal.....	87	64	81	131	147	151
Anthracite.....	87	95	101	167	146	164
Bituminous.....	85	89	95	115	144	119
Total.....	259	248	277	413	437	434

FURNACES OUT OF BLAST, JULY 1.

	1877.	1878.	1879.	1880.	1881.	1882.
Charcoal.....	181	202	176	136	125	126
Anthracite.....	139	130	125	68	90	72
Bituminous.....	123	128	107	109	77	109
Total.....	443	460	408	313	292	307

The capacity per week of the charcoal furnaces in blast is placed at 15,875 tons; out of blast, 9,621, total, 25,496. Anthracite, capacity in blast, 36,715; out of blast, 14,485; total, 51,200 tons. Bituminous, or coke, capacity in blast, 40,431; out of blast, 33,120; total, 73,551.

	In blast.	Out of blast.
Charcoal.....	15,875	9,621
Anthracite.....	36,715	14,485
Bituminous.....	40,431	33,120
Total.....	93,021	57,326
Total weekly capacity.....		150,347

The statement of capacity per week is somewhat in excess of what the regular working of the furnace will show—stoppages, slow working and various other causes, which will readily occur to those interested.

Illinois Central Railroad.

DURING the month of June, 1882, the traffic on the lines operated by this Company was (estimated):—

In Illinois.....	\$520,810 00
In Iowa (leased lines).....	142,936 00
Total.....	\$663,746 00

The traffic for the same month in 1881, on the same mileage, was (actual):—

In Illinois.....	\$629,279 69
In Iowa (leased lines).....	174,607 32
Total.....	\$803,887 01

During June, 1882, the land sales were 808.59 acres for \$5,047.20, and the cash collected on land contracts was \$6,489.75.

L. A. CATLIN, Secretary.

The Cause of the War.

THE father of the present Khedive or Viceroy was a man of unbounded extravagance, and could give points to Tweed, Robeson or a Brooklyn Bridge Commission and beat them in the art of expenditure. He succeeded in saddling Egypt with a load of debt greater than the Pyramids, and with mortgages and promissory notes more numerous than the sands of the Nile. Whenever he wanted money, and that was incessantly, he borrowed right and left, regardless of the terms of the bond. He was as careless as Wilkins Micawber about his notes. The greater proportion of these interesting little documents, to which usurious interest was attached, are held by the nobility of England. When the Egyptians, tired of their too expensive ruler, kicked him out and put his son in his place, the noble English creditors and their French confreres contrived to get hold of the management of the Egyptian finances to secure the payment of their claims. Arabi Bey, representing the native political element of the country, naturally rebelled against the summary disposal of the wealth and resources of the land. So England sent a fleet and bombarded Alexandria for the purpose of restoring the power of collecting the revenues of Egypt to the English and French officials empowered to receive it.—*Evening Telegram*.

THE newly completed hydrogen-burning locomotive which has been employed in the freight business of the New York, Lake Erie and Western Railroad for some time past, was put on the passenger service of the same company on the 11th inst., between this city and Paterson, with the most satisfactory results. The use of this steam fuel, it is said, has reduced the cost of railway motive power to a fraction of what it has heretofore been.

THE STOCK EXCHANGES AND MONEY MARKET.

New York Stock Exchange.

Closing Prices for the week ending July 19.

	Th.13.	F.14.	Sat.15.	M.17.	Tu.18.	W.19.
Adams Express.....	130 3/4					140
Albany and Susq.....						
1st mortgage.....						
2d mortgage.....						
American Express.....	93 3/4	94 1/4	94	94 1/2	94 1/4	
Burl. C. R. & Nor.....	76	80 1/2				
1st mortgage.....	101 1/2					
Canada Southern.....	56 1/4	56 1/2	58 1/2	59 1/4	60 1/2	62
1st mortgage guar.....				93	93	93 1/4
Central of N. Jersey.....	77 1/2	77	78 1/2	77 1/2	79 1/2	80 3/4
1st mort. 1890.....				118 1/4	118 1/4	
7s, consol. ass.....						
7s, convertible ass.....	110 1/2		109 1/2		109 1/2	
7s, income.....				90	92 1/2	
Adjustment.....	106 1/2	105 1/2				
Central Pacific.....	94 1/2	95 1/2	93 1/4	93 1/4	93 1/2	93
6s, gold.....			116 1/2		117	117
1st M. (San Joaquin).....						
1st M. (Cal. & Or.).....						
Land grant 6s.....						
Chesapeake & Ohio.....	24 1/4	24 1/2	24 1/2	25 1/4	25 1/4	
1st pref.....	34 1/2	35	36 1/2	38	37	
2d pref.....	26 1/2	26 1/2	27 1/2	27 1/2	27 1/2	
1st mort., series B.....	82 1/2	82 1/2	83 1/2	83 1/2	84	
Chicago and Alton.....	136 1/4	138 1/2	138 3/4	140	140	
Preferred.....						
1st mortgage.....						
Sinking Fund.....						
Chi., Bur. & Quincy.....	130 3/4	130	132 1/2	133 1/4	134 1/2	134 1/2
7s, consol. 1903.....		128 1/2		128 1/2	128	
Chi., Mil. & St. Paul.....	117 1/2	119 1/2	119 1/2	119 1/2	119 1/2	119
Preferred.....	131 1/2	133 1/2	133 1/2	134	133 1/2	133 1/2
1st mortgage, 8s.....				134		
2d mort., 7 3/8.....						
7s, gold.....						
1st M. (La. C. div.).....			118 1/2			
1st M. (L. & B. div.).....						
1st M. (H. & D. div.).....			115 1/2		115 1/2	
1st M. (C. & M. div.).....						
Consolidated S. F.....			121			
Chi. & Northwestern.....	133 1/2	133 1/2	134	133 1/2	134	134 1/2
Preferred.....	148 1/2	148 1/2	148 1/2	148 1/2	148 1/2	
1st mortgage.....						
Sinking Fund 6s.....						110 1/2
Consolidated 7s.....						
Consol. Gold b'ds.....	126 1/2				127	127
Do. reg.....						
Chi., R. Isl. & Pac.....	130	130	132 1/2	132 1/2	133 1/2	134 1/2
6s, 1917, c.....						
Clev., Col. & Ind.....	78	82 1/2	85	86 1/4	84 1/2	86
1st mortgage.....						
Clev. & Pittsburg gr.....	139		139			
7s, Consolidated.....						
4th mortgage.....						
Col., Chi. & Ind. Cent.....	12 1/2	13	13 1/2	14	14 1/2	16 1/2
1st mortgage.....						
2d mortgage.....						
Del. & Hud Canal.....	113 1/2	112 1/2	113 1/2	113 1/2	113 1/2	114 1/2
Reg. 7s, 1891.....			115 1/2			
Reg. 7s, 1884.....						105 1/2
7s, 1894.....						
Del., Lack. & Western.....	126 1/2	127 1/2	128 1/2	128 1/2	130 1/2	132
2d mortgage 7s.....						
Consol. 1907.....			128			
Erie Railway.....						
1st mortgage.....						
2d mort. 5s, ext.....		111				
3d mortgage.....	104 1/2					104 1/2
4th mort. 5s, ext.....						
5th mortgage.....						
7s, consol. gold.....	127					128
Great West. 1st mort.....						109
2d mortgage.....	100					
Hannibal & St. Jo.....						
Preferred.....	85	86	89	89 1/2	89 1/2	89 1/2
8s, Convertible.....		107 1/2		108 1/2		
Houston & Tex. Cen.....	81 1/2	81	82	82		
1st mortgage.....				109	109	
2d mortgage.....						
Illinois Central.....	137	137 1/2	138 1/2	138	139	138 1/2
Lake Shore & Mich So.....	111 1/2	112 1/2	112 1/2	113	112 1/2	114 1/2
Consol. 7s.....						
Consol. 7s, reg.....						
2d Consolidated.....						
Leh. & W. B. con. ass.....	104	105 1/4				
Long Dock bonds.....						
Louisville & Nash.....	70 1/4	71 1/4	73 1/2	73	72 1/4	70 1/2
7s, Consolidated.....			117 1/2			117
Manhattan.....	52 1/2	52 1/2	52 1/2	53	53	52
1st pref.....						
Met. Elevated.....				85		
1st mortgage.....	100 1/2	100 1/2	100 1/2	100	99 1/2	
Michigan Central.....	93	94 1/2	95 1/4	95 1/4	96	97 1/2
7s, 1902.....						
Morris & Essex.....			121		122 1/2	123
1st mortgage.....						

2d mortgage.....						
7s of 1871.....						
7s, Convertible.....						
7s, Consolidated.....						
N. Y. Cen. & Hud. R.....	133 1/4	134 1/4	134 1/4	135 1/4	133 1/4	
6s, S. F. 1883.....	102					
6s, S. F. 1887.....						
1st mortgage.....						
1st mortgage, reg.....					131	
N. Y. Elevated.....						
1st mortgage.....	115			115 1/4	115 1/4	
N. Y. & Harlem.....						
Preferred.....	201					
1st mortgage.....						
1st mortgage, reg.....						
N. Y., Lake Erie & W.....	39 1/2	39 1/2	40 1/4	40 1/2	40 1/2	40 1/2
2d Consolidated.....	79	78 1/2	79 1/2	78 1/2	80	
New 2d 5s fund.....	97 1/2	97 1/2	97 1/2	90 1/2	97 1/2	97
N. Y., N. Hav. n. Hart.....	93 1/2		93 1/2	93 1/2		
North Mo. 1st mort.....						
Northern Pacific.....	45	46 1/2	46 1/2	48 1/2	48 1/2	48
Preferred.....	84 1/2	85 1/2	87 1/2	88 1/2	89 1/2	88 1/2
Ohio & Mississippi.....	37 1/2	37 1/2	37 1/2	39 1/2	40 1/2	39 1/2
Preferred.....	103			105		105
2d mortgage.....						
Consolidated 7s.....				117		
Consol. S. Fund.....						
Pacific Mail S. S. Co.....	46 1/2	46 1/2	47	46 1/4	47	46 1/2
Pacific R. R. of Mo.....						
1st mortgage.....	109					
2d mortgage.....						
Panama.....						
Phila. & Reading.....	58 1/2	58 1/2	60 1/4	60 1/4	61	61 1/4
Pitts., Ft. W. & Chi. gtd.....	130	130				
1st mortgage.....						
2d mortgage.....						
3d mortgage.....						
Pullman Palace Car.....		128 1/4	128 1/4		129 1/4	
Quickkill R. Min'g Co.....			9 1/2	9 1/2	9 1/2	
Preferred.....	45 1/2			40		
St. Louis & San Fran.....	39	39	38 1/2	40 1/2	42	42 1/2
Preferred.....	51 1/2		52	54 1/2	57 1/2	58
1st Preferred.....	97		95 1/2	98 1/2	94 1/2	
St. L., Alt'n & T. H.....	31 1/2	30 1/2		32 1/2	34 1/2	34
Preferred.....	74 1/2	70		72	71	
1st mortgage.....						
2d mort. pref.....						
Income bonds.....						
St. L., Iron Mt. & S.....						
1st mortgage.....						
2d mortgage.....				107	106 1/2	
Toledo and Wabash.....						
1st mortgage.....						
2d mortgage.....						
7s, Consolidated.....	99 1/2					
St. Louis Division.....		104	105			
Union Pacific.....	114 1/2	116 1/2	116 1/2	116 1/2	117 1/2	
1st mortgage.....	117	116 1/2	116 1/2	117 1/2		
Land Grant 7s.....	115					
Sinking Fund 8s.....				120 1/2	122	
United States Ex.....	72 1/2		73			
Wabash, St. L. & Pac.....	33 1/2	34 1/2	35 1/2	35 1/2	37	
Preferred.....	57 1/2	58 1/2	59 1/2	63 1/2	63	64
New mort. 7s.....						
Wells-Fargo Ex.....	126		126		126 1/2	
Western Pacific b'ds.....	111	112				
Western Union Tel.....	88 1/2	88 1/2	88 1/2	88 1/2	88 1/2	89 1/2
7s, S. F. conv., 1900.....		116 1/2		117		

Boston Stock Exchange.

Closing Prices for the Week Ending July 19.

	Th.13.	F.14.	Sat.15.	M.17.	Tu.18.	W.19.
Atch., Top. & San. Fe.....	93 1/2	93 1/2	93 1/2	93 1/2	93 1/2	94
1st mortgage.....	120		120			
Land Grant 7s.....				115		
Boston & Albany.....	105 1/2		105 1/2	106	105 1/2	105 1/2
Boston and Lowell.....		102 1/2		102 1/2		
Boston & Maine.....	148 1/2			148		
Boston & Providence.....			160			
Bos'n. Hart. & Erieys.....	52 1/2	52 1/2	53 1/2	57	57 1/2	58
Burl. & Mo. R. L. G. 7s.....						
Burl. & Mo. R. in Neb.....				112	112	
6s, exempt.....				83 1/2		
Chi., Burl. & Quincy.....	130 1/2	130	130	133	134 1/2	134 1/2
Cin., Sand & Clev. (\$50).....	28 1/2	28 1/2	29 1/2		29 1/2	29
Concord (\$50).....					97 1/2	
Connecticut River.....						
Eastern.....	44 1/2	43 1/2	44 1/2	46	47 1/2	48 1/2
New 4 1/2 Bonds.....	109 1/2	109 1/2		109 1/2	109 1/2	109 1/2

Fitchburg.....	126 1/2					
N. Y. & New England.....	51 1/4		57	57 1/2	58	
7s.....	116 1/4			117	117	
Northern N. H.....	109		109		108 1/2	
Norwich & Worcester.....						
Ogden & Lake Cham.....						
Old Colony.....	132		132	132	132	
Ph., Wil. & Balt. (\$50).....			62			
Portl'd, Saco & Ports.....				115		
Pueblo & Ark Val 7s.....	114 1/2			115	115 1/2	
Pullman Palace Car.....					129	
Union Pacific.....	114 1/2	115	116 1/2	117	117 1/2	117 1/2
6s.....				117	117 1/2	
Land Grant 7s.....	113 1/2	113 1/2				
Sinking Fund 8s.....			119 1/2		119 1/2	
Vermont & Mass.....						
Worcester & Nashua.....						
Cambridge (Horse).....						
Metropolitan (Horse).....				75		
Middlesex (Horse).....						
Cal. & Hecla Min'g Co 248.....		248 1/2	243 1/2	243		
Quincy.....	64 1/2	64	64 1/2	64 1/2	64 1/2	65

Philadelphia Stock Exchange.

Closing Prices for the Week Ending July 18.

	W.12.	Th.13.	F.14.	Sat.15.	M.17.	Tu.18.
Allegh'y Val. 7 3/8.....						
7s, Income.....	50					
Buff., Pitts. & West.....	18 1/2	18 1/2	18 1/2	18 1/2	19 1/2	19 1/2
Camd'n & Am. 6s, '83.....						
6s, 1889.....				112 1/2	113	
Camden & Atlantic.....						
Preferred.....						
1st mortgage.....						
2d mortgage.....						
Catawissa.....	24 1/2	24 1/2		25		

Baltimore Stock Exchange.

Closing Prices for the Week Ending July 26.

W. 12. Th. 13. F. 14. Sat. 15. M. 17. Tu. 18.		195 1/4 195 3/4	
Baltimore & Ohio 68, 1885.....	195 1/4	195 3/4	
Central Ohio (\$50) 1st mortgage.....	110		
Marietta & Cincinnati 1st mortgage, 78.....	93		
2d mortgage, 78.....	93		
3d mortgage, 88.....	93		
Northern Cen. (\$50) 2d mort., 68, 1885.....	56 1/4		
3d mort., 68, 1900.....			
68, 1900, gold.....	115		
68, 1904, gold.....	115		
Pitts. & Connellsv. 78.....			
Virginia 68, Consol. 58 60 1/2 57 1/2 58 58 58			
Consol. coupons.....	60 1/2 60 1/2 60 61 60 1/2 60 1/2		
10 40 bonds.....	43 40 43		43 1/2
Def'd Certificates.....			
Western Maryland.....			
1st M., end. by Balt.....			
2d M., do.....			
3d M., do.....			
1st M., unendors'd.....			
2d M., end. WashCo.....			
2d M., preferred.....			105 1/2
City Passenger R.R.....			

London Stock Exchange.

—Closing Prices—

June 30.		July 7.	
Baltimore & Ohio 58, 1927.....	105	107	107
Central of N. J., \$100 shares.....	93	93	98
Do. consol. mort.....	112	110	112
Do. Income Bonds.....	88	92	88
Central Pacific of Cal., \$100 shs. 93.....	94	94	95
Do. 1st mort. 68, 1895-98.....	117	117	119
Det. G'd Haven & Mil. Equip bds.....	117	115	117
Do. Con. M. sp. c. till '83 aft' rep. c. 112.....	114	112	114
Illinois Central \$100 shares.....	137	137 1/2	137 1/2
Do. S. F. 58, 1903.....	106	106	108
Lehigh Valley Cons. mortgage.....	119	115	119
Louisville & Nashville mort. 68.....	100	98	100
Do. capital stock \$100 shares. 68.....	70	67	69
N. Y. Cent. & Hud. R. mt. bds.....	132	135	135
Do. \$100 shares.....	135	135	135
Do. mort. bonds (avg.).....	124	121	123
N. Y., Lake Erie & West. \$100 shs. 36 1/2.....	37	36 1/2	37 1/2
Do. 6 p. c. pref. \$100 shares.....	74	76	76
Do. 1st Con. Mort. bds (Erie) 128.....	130	128	130
Do. do. Funded Coupon bds. 124.....	126	124	126
Do. 2d Consol Mort. bonds.....	96	97	97 1/2
Do. do. Funded Coupon bds.....	92	94	94
N. Y., Pa. & Ohio 1st mort. bonds. 43.....	45	43	44
Do. Prior Lien bds (sterling).....	108	103	108
Pennsylvania, \$50 shares.....	59 1/2	60	60 1/2
General Mortgage.....	124	121	124
Phil. and Erie Gen. mort. 68, 1900, 119.....	127	117	119
Philadelphia & Reading \$50 shs. 29 1/2.....	30 1/2	29 1/2	29 1/2
General Consol Mortgage.....	116	116	118
Do. Improvement Mortgage.....	103	105	105
Do. Gen. Mtg. 7 1/2 ex-div'd coup. 99.....	101	97	98
St. L. Bridge 1st mort. gold b'd. 125.....	127	125	127
Do. 1st pref. stock.....	95	95	98
S. P. of Cal., 1st mort. 68, 1905-6, 107.....	109	107	109
Union Pacific 1st mtg.....	119	117	119
Wabash, St. L. & P. \$100 shs.....	28	30	31
Do. \$100 pref. shares.....	51 1/2	52 1/2	53 1/2
Do. gen. mort. bonds.....	79	81	80

AMERICAN RAILROAD JOURNAL.

Financial and Commercial Review.

THURSDAY EVENING, July 20, 1882.

The rates during the day for call loans were 2 1/2 @ 3 per cent. Time loans were 3 to 5 per cent. Prime mercantile paper ranged from 4 to 5 1/2 per cent.

The posted rates for prime bankers' sterling were 4.86 and 4.89. The actual rates were 4.85 @ 1/4 and 4.88 @ 1/4, with cable transfers 4.89 @ 1/4, and prime commercial bills 4.83 1/2 @ 1/4. The actual rates for Continental bills are as follows: France, 5.18 1/2 and 5.15, Marks, 94 1/2 @ 1/4, and 95 1/2 @ 1/4, and Guilders, 40 1/2 and 40 1/4.

The New York, Lake Erie and Western Railroad Company has made an arrangement with Messrs. Drexel, Morgan & Co. to extend, at 4 1/2 per cent, for forty years from their maturity, the third mortgage bonds of the New York and Erie Railroad Company, which mature on the 1st of March, 1883. The present holders of the bonds have the option to extend their bonds without cost by depositing the same with Messrs. Drexel, Morgan & Co. for that purpose prior to December 31, 1882. The total outstanding issue is \$4,852,000. This is a similar negotiation to those previously made by the same company for the extension of the second and fourth mortgages of the New York and Erie Railroad Company, which were extended at 5 per cent, and are now selling at 111 and 108 respectively.

A recent circular of Messrs. John A. Hambleton & Co., of Baltimore, Md., referring to the reorganization of the Marietta and Cincinnati Railroad Company, says that of the \$13,000,000 bonds of that company, only about \$300,000 have not been deposited in the Trust Company, and the few bonds still out are being reduced by small amounts which are coming in. Over two-thirds of the stock of the Marietta and Cincinnati Railroad Company has been deposited and the assessment paid. The scheme of reorganization gives universal satisfaction, and it is unprecedented that such large amounts of bonds and stock should have been deposited in so short a time. Under the plan of reorganization the first mortgage bonds are to be funded, principal and accrued interest, into new fifty-year bonds, guaranteed principal and interest by the Baltimore and Ohio Railroad Company, and bearing interest at 4 1/2 per cent per annum. Up to November 1, 1881, there was about 30 per cent of accrued interest on Marietta and Cincinnati first mortgage bonds, making the principal and accrued interest 130 per cent, for which the holders of a Marietta and Cincinnati first mortgage bond will receive the new 4 1/2 per cent bonds. At present Marietta and Cincinnati firsts, carrying all back interest, are selling at about 128. If the new 4 1/2 per cent bonds do not sell for more than 100, there is a clear profit of 5 per cent in buying Marietta and Cincinnati firsts at present figures, as at 4 1/2 per cent from November 1, 1881, to date, there has accrued 5 per cent on the new bonds, which will be dated November 1, 1881. Up to November 1, 1881, there had accrued 31 1/2 per cent of interest on Marietta and Cincinnati second mortgage bonds, making a total fundable value of 131 1/2 per cent. Of this amount 120 per cent will be funded into new second mortgage 5 per cent bonds and 11 1/2 per cent into new third mortgage bonds bearing interest at 3 per cent for ten years and 4 per cent thereafter. If the new 5 per cent bonds sell at 90 and the thirds at 40, it would be equivalent to about 112 for the present second mortgage bonds, which are now selling at 101. Up to November 1, 1881, there had accrued about 40 per cent in back interest on Marietta and Cincinnati third mortgage bonds, making a total fundable value of 140 per cent. Of this amount 66 per cent is to be funded into new third mortgage bonds—3 per cent for 10 years and 4 per cent for 40 years—and the balance, 74 per cent, into 5 per cent income bonds. If the new third mortgage bonds and incomes sell at 45, which we consider low prices for them, the present third mortgage bonds are worth 63.

The Chief of the Bureau of Statistics at Washington reports that the total values of the exports of domestic provisions, tallow and dairy products, during the month of June, 1882, were \$7,767,186; during the month of June, 1881, \$9,601,723. Six months ended June 30, 1882, \$50,723,402; six months ended June 30, 1881, \$71,165,337. The total values of exports of provisions and tallow for eight months ended June 30, 1882, \$65,489,328; for eight months ended June 30, 1881, \$88,283,933. Dairy products for two months ended June 30, 1882, \$2,280,384; for two months ended June 30, 1881, \$3,835,84.

The following is the 11th section of the Bank Charter Extension bill which relates to the refunding of the 3 1/2 into 3 per cent.

"That the Secretary of the Treasury is hereby authorized to receive at the Treasury any bonds of the United States bearing 3 1/2 per cent interest, and to issue in exchange therefor an equal amount of registered bonds of the United States of the denominations of \$50, \$100, \$500, \$1,000, and \$10,000 of such form as he may prescribe, bearing interest at the rate of 3 per cent per annum, payable quarterly, at the Treasury of the United States. Such bonds shall be exempt from all taxation by or under State authority, and be payable at the pleasure of the United States; provided, that the bonds here, in authorized shall not be called in and paid so long as any bonds of the United States heretofore issued, bearing a higher rate of interest than 3 per cent, and which shall be redeemable at the pleasure of the United States, shall be outstanding and uncalled. The last of the said bonds originally issued under this act, and their substitutes, shall be first called in, and this order of payment shall be followed."

We give on another page the circular of the Secretary of the Treasury to the holders of extended 3 1/2 per cent bonds, advising of the means to be employed in exchanging the same for 3 per cent bonds. The amount of the 3 1/2 per cent bonds not called for redemption is about

\$416,500,000, of which \$401,500,000 are extended 58. About half of these bonds are held by the national banks, which will probably hasten to exchange for the 3 per cent.

Considerable comment has been made over the above section of the Bank Charter Extension bill providing for the issue of 3 per cent bonds, because of their exemption from "all taxation by or under State authority" only. Heretofore such bonds have been specifically exempt from taxation of every character, national, State or municipal. Any objection to the bill in its present shape, however, does not hold good, as the taxation referred to is amply provided for in Section 3,701 of the Revised Statutes, which is as follows: "All stocks, bonds, Treasury notes and other obligations of the United States shall be exempt from taxation by or under State or municipal, or local authority."

The Chief of the Bureau of Statistics reports that the total value of the exports of domestic breadstuffs during the month of June, 1882, were \$9,247,466; do. 1881, \$20,605,678. Six months ended June 30, 1882, \$64,833,581; do. 1881, \$111,980,917. Twelve months ended June 30, 1882, \$176,977,496; do. 1881, \$265,561,091.

A dispatch from Tallahassee, Florida, says that \$665,000 have been paid by Sir Edward J. Reed, in addition to the Pensacola and Georgia Railroad bonds he holds for credit on the judgment. The trustees will pay at the office of the State treasurer all first mortgage bonds and coupons of the Pensacola and Georgia Railroad Company not in litigation.

In 1865 the total interest-bearing debt of the United States was computed at \$2,381,530,295, bearing an aggregate annual interest of \$150,977,698. At the close of the fiscal year ending June 30, 1882, the total debt bearing interest was \$1,463,810,400, with an annual interest charge of \$57,360,110. The actual reduction of this debt during the period mentioned was \$927,719,895; the practical reduction, however, when the present interest charge is considered, is very much greater.

The Supreme Court of Vermont, through the First Associate Justice, has filed its mandate in the railroad case of James R. Langdon and others vs. the Vermont and Canada Railroad Company and others. The decree of the Court of Chancery is reversed and the case is remanded to that Court, with directions to cause the accounts of the managers of the trust property, from the time the trust was created by the decree of the Court in 1861 until the present time, to be settled and all equitable offsets ascertained and applied; also, that the managers in possession of the property be required to file and settle their accounts at frequent stated times, so that the condition of the trust may be readily ascertained at any given time.

The stockholders of the Scioto Valley Railroad Company, at their meeting in Columbus, Ohio, on the 14th inst., authorized an increase in the capital stock from \$5,000,000 to \$10,000,000; they also voted to create a new mortgage on the property of \$7,500,000, which is termed the general consolidation mortgage, the design being to take up existing mortgages and make this the only mortgage on the property. It was further agreed to extend the line from Columbus, Ohio, to Fort Wayne, Indiana, increasing its length from 150 to 300 miles.

It being conceded that the Tennessee funding bill of May last is the final basis of settlement of the State debt, steps are being taken to list the new bonds at the Stock Exchange. These are given for 60 per cent principal and interest of the old bonds. They bear interest at 3 per cent for two years, 4 per cent for two years, 5 per cent for two years, and 6 per cent thereafter.

The Treasurer of the Province of Quebec is asking for tenders for a 5 per cent loan of \$1,500,000. The debentures are in amounts of \$500 each and have thirty years to run. Tenders will be received till the 22d inst., but none below par will be accepted. Payments will be received by instalments.

The arrangement recently made by the Baltimore and Ohio Railroad Company to purchase 11,250 shares of the "minority stock" of the Cincinnati and Baltimore Railroad Company removes the last obstacle to the reorganization of the Marietta and Cincinnati Railroad Company. The price paid is \$55 per share of the par value of \$50 each, making the monetary amount of the transaction \$618,750. The purchase is to be consummated on the 1st of August. The Cincinnati and Baltimore Railroad extends from the north rail of the Cincinnati, Hamilton and Dayton Railroad, near its Millcreek crossing, to the

south end of the Marietta and Cincinnati Bridge at Ludlow Junction, a distance of about six miles. The Marietta and Cincinnati, when being built, exhausted its credit and means when it reached Millcreek, at Ludlow Junction, and the Cincinnati and Baltimore was built as a means of giving it access to the city.

From the quarterly report of the Treasurer of the State of Pennsylvania it appears that during the three months ending June 30, 1882, \$669,567.32 were paid in liquidation of the State debt and interest. The deposits in the various banks of the State on account of the sinking fund amounted on the 1st instant to \$2,671,597.94. The entire debt at that time was \$20,934,483.28, of which but \$560,000 bears interest at the rate of six per cent, the remainder having been funded at a lower rate.

The receiver of the Ohio and Mississippi Railroad reports the receipts for the month of June at \$512,068.64, and the expenditures at \$268,613.66, leaving a balance in cash July 1, 1882, of \$243,454.98. The disbursements were for: vouchers prior to November 18, 1876, \$308.05; vouchers subsequent to November 17, 1878, \$131,736.54; pay-rolls, \$136,174.20; arrearages, \$394.47; total, as above, \$268,613.66.

At a meeting of the directors of the Louisville and Nashville Railroad Company, held in this city on the 18th inst., an official statement of the company's business for the fiscal year ending June 30, 1882, was presented. This statement placed the gross earnings for the year at \$11,953,825, and operating expenses at \$7,414,067, leaving the net earnings from traffic, \$4,539,758. Other income is placed at \$252,598, making a total of \$4,792,356. The fixed charges for the year were \$3,744,540, and taxes amounted to \$309,660, making a total of \$4,054,200, which taken from the income account leaves a surplus of \$738,156. From this amount the dividend of \$543,900, declared February 10, 1882, and the possible loss of \$110,000 on the Georgia Railroad lease, are deducted, leaving a balance to be carried forward to the account of the ensuing year of \$84,256.

The Secretary of the Treasury has decided to affirm the assessment of duty at 2½ cents a pound on the axle forgings imported at Toledo, Ohio, which question has been under consideration for the last three months. This decision is against the importer, who claimed that the article was not a finished axle, but was dutiable only as rolled or hammered iron.

The following quotation of sales of railway and other securities, for the week, are in addition to those given elsewhere in our columns.

New York.—Atchison, Topeka and Santa Fe, 93½; Atlantic and Pacific 1st, 99; Boston and New York Air Line pref., 78½; Boston, Hartford and Erie 1st, 58; Buffalo, New York and Erie 1st, 196; 130; Cedar Falls and Minn., 23; Chicago, St. Paul, Minneapolis and Omaha, 47; do. pref., 108; do. consol., 104½; Columbia and Greenville pref., 71½; do. 1st, 71; Central Iowa, 27; do. 1st, 114; Cincinnati, Sandusky and Cleveland, 58; Chicago, St. Louis and New Orleans, 82½; do. 58, 102½; Col., Chi. and Ind. Cent. inc., 50; Chesapeake and Ohio cur. int., 53; do. pur. money fund, 108; Chicago, Milwaukee and St. Paul 2d, 105; do. Chicago and Lake Superior div. 1st, 94½; do. Chicago and Pacific West div. 1st, 92½; do. Mineral Point div. 1st, 91½; Chicago and Northwestern S. F. 58, 101½; Cairo and Fulton 1st, 106½; Dubuque and Sioux City, 87½; Denver and Rio Grande, 62½; do. 1st, 113½; do. consol., 102; Denver, South Park and Pacific 1st, 101½; Evansville and Terre Haute 1st, 96; East Tenn., Va. and Ga., 12½; do. 1st, 113; do. pref., 20; do. inc., 48; do. 58, 75; Elizabethtown, Lexington and Big Sandy 68, 94½; Green Bay, Winona and St. Paul, 12½; do. inc., 21; Gulf, Colorado and Santa Fe 1st, 106½; Galveston, Harrisburg and San Antonio 1st, 104½; Hudson River 2d S. F., 106½; Indiana, Bloomington and Western, 43½; do. inc., 60; do. 1st, 90; do. Eastern div., 1st, 94½; International and Gt. Northern 1st, 106½; do. coup. 68, 89½; Indianapolis, Decatur and Springfield 1st, 103; Kansas Pacific 68, Denver div. aas., 110; 68, 186, 110; do. 1st consol., 104; Keokuk and Des Moines, 19; do. 1st, 106; Lehigh and Wilkesbarre inc., 83; Louisiana and Missouri River, 19; Lake Erie and Western, 38½; do. inc. 60; do. Sandusky div. inc., 52; Long Island, 57½; do. consol. 58, 97½; Louisville, New Albany and Chicago, 60; do. 1st, 105½; Lafayette, Bloomington and Muncie 1st, 101; do. inc., 57; Louisville and Nashville, Cecilian Branch 1st, 106½; do. gen'l mort., 68, 65½; Manhattan Beach, 22; Minn. and St. Louis, 34;

do. pref., 70½; do. 1st, 115½; Mobile and Ohio, 22; do. 1st debent., 76; do. 2d debent., 40; do. 1st mort., 108; Missouri, Kansas and Texas, 39; do. gen'l mort., 68, 87; do. consol. 78, 110; do. 2d, 69½; Missouri Pacific, 104; do. 1st consol., 101½; do. 3d, 110½; Memphis and Charleston, 58; Milwaukee, Lake Shore and Western, 53½; do. 1st, 100; Marietta and Cincinnati 2d pref., 9; Metropolitan Elevated 2d, 90; Michigan Central 58, 104; New York, Chicago and St. Louis, 15½; do. pref., 33½; do. 1st, 88½; Nashville, Chattanooga and St. Louis, 62½; New York, Ontario and Western, 29; Norfolk and Western, 19; do. pref., 54½; do. gen'l mort., 101½; Northern Pacific 1st, 103½; New Orleans Pacific 1st, 87½; New York City and Northern gen'l mort., 55; Ohio Central, 17½; do. inc., 38; Ohio Southern, 15½; do. 1st, 83; do. inc., 30; Oregon Railway and Nav., 147; do. 1st, 107; Oregon Transportation, 83½; Peoria, Decatur and Evansville, 38½; do. 1st, 110; Rome, Watertown and Ogdensburg inc., 45; do. extended 58, 83; Rochester and Pittsburgh inc., 45; do. 1st, 104½; Richmond and Alleghany, 26; do. 1st, 87; Richmond and Danville, 105; do. debent., 73; do. 1st, 99½; Richmond, Danville and West Point, 57; St. Louis, Kansas City and Northern, R. E. 78, 106½; South Pacific of Missouri 1st, 104½; South Carolina 1st, 99; do. 2d, 84½; do. inc., 49½; St. Paul and Duluth, 34; do. pref., 89; St. Paul, Minneapolis and Manitoba, 143; do. 2d, 113; St. Louis, Iron Mountain and Southern 58, 82½; do. Cairo, Ark. and Texas 1st, 105½; do. Ark. Branch 1st, 107½; Southern Pacific of California 1st, 105½; St. Louis and San Francisco 2d, Class B, 90; Toledo, Peoria and Western 1st, 110; Texas Central 1st, 107; Toledo, Delphos and Burlington inc., 23; Texas and St. Louis, 25; Texas and Pacific, 49½; do. inc. Land Grant, 70½; do. Rio Grande div. 1st, 88½; Virginia Midland, 45½; do. inc., 67; Wabash, St. Louis and Pacific, gen'l mort., 68, 86; do. Chicago div., 1st, 81½; Arkansas 78, Central R. R. issue, 24½; Alabama, Class A, 79½; Missouri 68, 1882-83, 100; do. 68, 1888, 108; do. H. and St. J. issue, 1886, 107½; American District Telegraph, 50; New York and Texas Land, 45½; Sutro Tunnel, ¾; Colorado Coal and Iron, 49½; do. 68, 90½; Consolidation Coal, 33; Cameron Coal, 36½; Maryland Coal, 17; Homestake Mining, 18½; Ontario, 36; Standard, 17½.

Boston.—Atchison, Topeka and Santa Fe plain 58, 88; Atlantic and Pacific blocks, 111½; do. inc., 30; do. 68, 97½; Boston, Clinton, Fitchburg and New Bedford, 64; Boston Land, 8½; Burlington and Missouri River in Neb. 68, non-exempt, 104½; Boston Water Power, 4½; Central of Iowa, 28; Connattion Valley, 8½; California Southern 68, 84; do. 58, 80½; Chicago, Milwaukee and St. Paul, Wisconsin Valley div. 1st, 100½; do. Dubuque div. 1st, 104; Chicago and West Michigan, 69; Connecticut and Passumpsic Rivers pref., 92; Chicago, Burlington and Quincy 48, 86½; do. 48, Denver ext., 85½; Connecticut River R. pref., 167½; Detroit, Lansing and Northern 78, 117½; Flint and Pere Marquette, 25; do. pref., 95; Iowa Falls and Sioux City, 92; Kansas City, Fort Scott and Gulf, 77; do. 78, 112½; Kansas City, St. Joseph and Council Bluffs 78, 115½; Kansas City, Lawrence and Southern 58, 105; Little Rock and Fort Smith, 56; Louisiana and Missouri River, 18; do. pref., 35; Mexican Central, 30; do. 78, 87½; do. blocks No. 2, 123½; do. No. 3, 110; do. inc., 32½; Marquette, Houghton and Ontonagon, 75½; do. pref., 122½; Massachusetts Central, 3½; do. 68, 39; Michigan Central, 95½; New Mexico and Southern Pacific 78, 115; New York and New England 68, 105½; Northern Pacific 68, 102½; Oregon Short Line 68, 102½; do. subscriptions, 118; Portsmouth, Gt. Falls and Conway, 34½; Rutland pref., 24½; do. 68, 100; Sonora 78, 107; Summit Branch, 13½; Southern Kansas and Western 78, 109; Toledo, Delphos and Burlington 68, 66½; do. inc., 22½; do. Southeast div. inc., 20; Toledo, Cincinnati and St. Louis, 8½; do. 68, 70; do. Dayton div. inc., 19; Wisconsin Central, 19; do. pref., 30; Alton Mining Co., 2½; Atlantic, 16½; Brunswick Antimory, 12; Franklin, 14½; Huron, 1½; Harshaw, 2; Napa Consolidated Quicksilver, 5½; Osceola, 32; Penabie, 12; Silver Islet, 15; Sullivan, 1½.

Philadelphia.—Buffalo, Pittsburgh and Western, 27½; Cincinnati 7-308, J. and J., 130; do. M. and N., 131½; Central Transportation, 34; Connecting Railroad 68, 119; Morris Canal Boat Loan 78, 105; New Orleans Pacific 68, 88; Philadelphia, Germantown and Norristown, 111½; Philadelphia and Reading Railroad scrip, 100; do. def. inc., 29; do. debent., 68, 60; Philadelphia City 48, 1883, 101; do. 68, 1904, 131½; do. 1889, 130; Philadelphia and

Reading Coal and Iron mort., 78, 80; Pittsburgh Avenue 78, 1885, 107½; Pennsylvania consol. 58, 106; Pennsylvania Company 4½, 96½; Philadelphia and Trenton, 187; Philadelphia, Wilmington and Baltimore 48, 95; Pennsylvania Canal 68, 90; Schuylkill Nav. 68, 1907, 92; St. Paul and Duluth pref., 85½; Texas and Pacific 1st, 107½; do. consol. mort. 68, 96; Union and Titusville 78, 93; West Jersey, 46; Western Pennsylvania 68, 105; do. Pittsburgh Branch, 104. The latest quotations are: City 68, 108@120; do. free of tax, 127@133; do. 48, new, 108@113; Pennsylvania State 58, new loan, 118½@119½; do. 48, old, 108@112; do. 48, new, 115@116; Philadelphia and Reading Railroad, 30½@30½; do. consol. mort. 78, reg. 124@125; do. gen'l mort. 68, coupon, 96@97; do. 78, 1893, 118½@119½; do. new conv., 77½@78½; United New Jersey R.R. and Canal, 187½@188½; Buffalo, Pittsburgh and Western, 19½@19½; Pittsburgh, Titusville and Buffalo 78, 95@97; Camden and Amboy mort. 68, 1889, 112½@113½; Pennsylvania R. R., 62½@62½; do. general mort. 68, coupon, 124@125; do. reg., 124½@125½; do. consol. mort. 68, reg., 118@120; Little Schuylkill R. R., 56@56½; Schuylkill Navigation, pref., 13¾@14¾; do. 68, 1882, 91@93; Elmira and Williamsport pref., 58@60; do. 58, 100@101; Lehigh Coal and Navigation, 42½@42½; do. 68, 1884, 103@103½; do. R. R. loan, 116@117; do. Gold Loan, 111@112; do. consol. 78, 116½@117; Northern Pacific, 48@48½; do. pref., 89@89½; North Pennsylvania, 64½@65½; do. 68, 105@107; do. 78, 123@126; do. 78, General mort. reg., 122½@123; Philadelphia and Erie, 18@19; do. 78, 114@115; do. 58, 104@105; Minehill, 61@62; Catawissa 24@25; do. pref., 55@55½; do. new pref., 53@54; do. 78, 1900, 120@—; Lehigh Valley, 61½@62; do. 68, coupon, 122½@123½; do. reg., 122½@123½; do. 78, 133½@134½; do. consol. mort. 120½@121½; Fifth and Sixth streets (horse), 150@160; Second and Third, 109@112; Thirteenth and Fifteenth, 65@75; Spruce and Pine, 40@45; Green and Coates, 80@90; Chestnut and Walnut, 75@93; Germantown, 69@70; Union, 110@115; West Philadelphia, 105@115; People's 15@15½; Continental, 100@102.

Baltimore.—Atlanta and Charlotte, 74; do. 1st, 109½; Atlantic Coal, 1.20; Baltimore City 68, 1890, 117½; do. do. 68, 1886, 109; do. 68, 1884, 103½; do. 68, 1893, 121; do. 58, 1916, 125; Baltimore and Ohio 2d pref., 120; Canton Co. 68, 102½; Columbia and Greenville 1st, 102½; do. 2d, 85½; Charlotte, Columbia and Augusta, 40; George's Creek Coal, 91½; Marietta and Cincinnati 1st Trust certificates, 127; do. 2d, 101½; do. 3d, do., 56½; Maryland Defense 68, 105; Ohio and Mississippi, Springfield div. 1st, 117½; Parkersburg Branch, 10; Richmond and Danville debent., 68½; Sutro Tunnel, 0.42; Virginia Peeters coupons, 39; do. 10-40s coupons, 65½; Virginia Midland, new, 40; do. pref., 100; do. 2d mort., 109½; do. 4th mort., 52; do. 5th mort., 95½; Wilmington, Columbia and Augusta, 108½. The latest quotations are: Atlanta and Charlotte 73½@75; do. 1st, 109½@109½; Baltimore and Ohio, —@197; do. 2d pref., 120@—; do. 68, 1885, 106½@107; Baltimore City 68, 1890, 117@118; do. 68, 1886, 109@110; do. 68, 1902, —@132; do. 58, 1916, 125@—; Columbia and Greenville 1st, 102½@102½; do. 2d, 85½@85½; Canton Co. 68, 102½@102½; Marietta and Cincinnati 1st mort., 127@128½; do. 2d, 101½@101½; do. 3d, 56½@56½; Norfolk Water 88, 132@135; Northern Central, 49@49½; do. 68, 1900, gold, 115@116; do. 68, 1904, gold, 415@—; do. 58, 1926, 99@97; Ohio and Mississippi, Springfield div. 1st, 117½@117½; Pittsburgh and Connellville 78, 120½@121½; Richmond and Alleghany, 24½@26½; Virginia Midland old, 80@85; do. 5th mort., 95½@95½; Virginia consols, 57½@58; do. consol. coupons, 60½@60½; Virginia 10-40s, 43@43½; do. 10-40 coupons, 66@—; Western Maryland 1st, undivided, 111½@—; do. 2d pref., 106@106½.

The most remarkable whirlpool is the maelstrom, off the northwest coast of Norway and southwest of Moskenesol, the most southerly of the Lofoden Isles. It was once supposed to be unfathomable, but the depth has been shown not to exceed twenty fathoms. The whirlpool is navigable under ordinary circumstances; but when the wind is northwest it often attains great fury and becomes extremely dangerous. Under strong gales the maelstrom has been shown by official statistics to run at the rate of twenty-six miles an hour.

RAILROAD AND CANAL DIVIDEND STATEMENT.

Showing the amount of Stock Outstanding, the Dividend Periods and the date of last Dividend.

Marked thus (*) are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividen d Payable.	Marked thus (*) are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividen d Payable.	Marked thus (*) are leased roads.	Stock out-standing.	Divide'd Periods.	Last Dividen d Payable.
Albany and Susq*...100	2,500,000	semi-an	July '82 2	Little Miami.....50	4,637,300	q'arterly	June '82 2	Ware River*.....100	750,000	semi-an.	July '82 3 1/2
Ashuelot.....100	210,000	q'arterly	Oct. '81 3 1/2	Little Rock & Ft. S. 100	4,096,135	semi-an.	July '81 10 1/2	Warren (N. J.).....100	1,800,000	semi-an.	Apl. '82 3 1/2
Atch., Top. and S. Fe 100	54,000,000	q'arterly	Aug. '82 1 1/2	Little Schuylkill*...50	2,646,100	semi-an.	July '82 3 1/2	Warwick Valley.....100	340,000	semi-an.	July '82 2 1/2
Atlanta and W. Point 100	1,232,200	semi-an	Jan. '82 6	Louisville & Nashv...100	19,130,913	semi-an.	Feb. '82 3	Westchester & Phil. prof 100	821,300	semi-an.	July '80 2
Atlantic and St. Law* 100	5,840,000	semi-an	Mar. '82 3	Lowell & Andover.....100	500,000	semi-an.	Jan. '82 3 1/2	West Jersey.....100	1,359,750	semi-an.	Apl. '83 3 1/2
Augusta and Savan* 100	1,022,900	semi-an	June '81 3 1/2	Lykens Valley.....100	600,000	q'arterly	Oct. '81 2 1/2	Wilmington & Weld'n. 100	1,456,200	semi-an.	July '82 3
Avon, Genesee & Mt. M* 100	225,000	semi-an	July '81 3	Manchester & Law. 100	1,000,000	semi-an.	May '82 5	Wil., Col., & Aug.....100	960,000	semi-an.	July '82 3
Baltimore and Ohio. 100	14,792,566	semi-an	May '82 5	Manhattan.....100	13,000,000	semi-an.	July '82 1 1/2	Winchester & Poto'c. * 100	180,000	semi-an.	July '82 3
" pref. 100	5,000,000	semi-an	July '82 3	" 1st pref. 100	6,500,000	q'arterly	July '82 1 1/2	Winchester & Strasb. * 100	74,700	semi-an.	July '82 3
Washington Br.....100	1,650,000	semi-an	Apl. '82 5	" 2d pref. 100	6,500,000	q'arterly	July '82 1 1/2	Worcester & Nashua. 75	1,789,800	semi-an.	July '82 1 1/2
Berkshire.....100	600,000	q'arterly	Apl. '82 1 1/2	Marquette Cincinnati 50	1,386,350	semi-an.	Sep. '66 38	HORSE-POWER R. R.			
Boston and Albany. 100	20,000,000	q'arterly	June '82 2	" 1st pref 50	8,105,600	semi-an.	Sep. '66 38	Albany City.....100	2,000,000	annual	.....'80 5 1/2
Bos. & N. Y. Air Line pf. 100	2,795,227	q'arterly	June '82 1	" 2d pref 50	4,440,000	semi-an.	Sep. '66 38	Baltimore City.....25	800,000	semi-an.	July '82 3
Bos., Cl., F. & N. B. pref. 100	1,750,100	semi-an	Apl. '82 3 1/2	Marq. Hout. & Ont. pf. 100	2,259,026	semi-an.	Feb. '82 4	Balt., Cat. & El. Mills. 100	1,000,000	semi-an.	July '82 2
Bos., Conc. & Mont. pf. 100	800,000	semi-an	May '82 3	Massachusetts.....100	400,000	semi-an.	Feb. '82 3	Bleeker St. & Ful. F. y. 100	900,000	semi-an.	July '81 1/2
Boston and Lowell. 500	3,940,000	semi-an	July '82 2	Michigan Central.....100	18,738,204	q'arterly	Aug. '81 1	Boston & Chelsea pref. 50	110,000	semi-an.	Apl. '82 1
Boston and Maine. 100	6,921,274	semi-an	May '82 4	Middlesex Central.....100	280,000	semi-an.	Feb. '82 3	Broadway (Brooklyn) 100	250,000	q'arterly	Oct. '82 3
Boston & Providence 100	4,000,000	semi-an	May '82 4	Mill Creek & Minehill* 100	323,000	semi-an.	July '82 5	B'way & 4th Av. (N. Y.) 100	2,100,000	q'arterly	Oct. '81 3
Attleborough Br. 100	131,700	semi-an	July '82 3 1/2	M. Hill & Schuyl. Hav* 50	4,022,500	semi-an.	July '82 3 1/2	B'lyn & Hunter's Pt. 100	400,000	semi-an.	Apl. '79 3
Bos., Revere B. & Lynn 100	419,400	semi-an	July '82 3 1/2	Missouri Pacific.....100	28,169,800	q'arterly	July '82 1 1/2	Brooklyn City.....100	2,000,000	q'arterly	Dec. '81 3 1/2
Buffalo, N. Y. & Erie* 50	950,000	semi-an	June '82 3	Mobile & Montgomery 100	3,022,517	annual	Feb. '80 2 1/2	Brushwick (Brooklyn) 100	309,000	semi-an.	July '82 2 1/2
Camden & Atlantic. 100	377,400	q'arterly	Apl. '80 3 1/2	Mont. & Wells River 100	800,000	semi-an.	July '82 3 1/2	Cambridge.....100	908,000	q'arterly	July '82 4 1/2
" pref. 50	880,650	q'arterly	Apl. '80 3 1/2	Morris and Essex.....50	15,000,000	semi-an.	Jan. '82 6	Can. Park, N. & E. Riv. 100	1,800,000	semi-an.	July '82 2
Camden & Burl. Co. 100	381,925	semi-an	July '82 3	Mt Carbon & Pt Carbon 50	282,350	semi-an.	Jan. '82 6	Christoph' & Tenth St 100	650,000	q'arterly	Aug. '81 2 1/2
Canada Southern.....50	15,000,000	semi-an	Feb. '81 2 1/2	Nashua and Lowell. 100	800,000	semi-an.	July '82 4	Citizens (Phl.).....50	192,500	q'arterly	Jan. '82 2 1/2
Cape May & Millville* 50	447,000	semi-an	June '81 3	Nashua & Rochester. 100	1,305,800	semi-an.	Apl. '82 1 1/2	Citizens (Phg.).....50	200,000	annual	.....'80 1 1/2
Catawissa.....100	1,159,500	annual	Oct. '81 1 1/2	Nashv. & Decatur. 100	1,827,000	semi-an.	June '81 3	Coney Island & Bklyn 100	500,000	semi-an.	Oct. '80 5
" pref. 20	2,200,000	semi-an	May '82 3 1/2	Nash., Chat. & St. Louis 25	6,670,325	semi-an.	Jan. '82 1 1/2	Continental (Phl.)... 50	1,800,000	q'arterly	July '82 6
" new pref. 50	1,000,000	semi-an	May '82 3 1/2	Naugatuck.....100	2,000,000	semi-an.	Jan. '82 5	D. Dock, E. B. way & Bklyn 100	500,000	q'arterly	Nov. '81 4
Cayuga and Susq.* 50	589,110	semi-an	July '81 4 1/2	Nesquehoning Val' y* 50	1,300,000	semi-an.	Mar. '82 3	Eighty Av. (N. Y.)... 100	1,000,000	q'arterly	Oct. '81 3
Cedar Rapids & Mo. R* 100	6,850,400	q'arterly	May '82 1 1/2	New Castle Beaver Val* 50	600,000	q'arterly	Oct. '81 1	42d St. & G. St. Ferry 100	747,000	semi-an.	Nov. '81 6
" pref. 100	769,600	q'arterly	Feb. '82 3 1/2	New London North* 100	1,500,000	q'arterly	July '82 1 1/2	Frankf. & South (Ph) 50	600,000	q'arterly	July '82 2 1/2
Central of Georgia.....100	7,500,000	semi-an	June '82 4	N. Y. Cen. & Hud. R. 100	89,428,330	q'arterly	July '82 4	German town, (Ph.)... 50	572,800	q'arterly	July '81 2 1/2
Central of New Jersey 100	18,563,200	q'arterly	July '76 2 1/2	N. Y. and Harlem.....100	7,950,000	q'arterly	July '82 4	Grand College (Ph.)... 50	500,000	semi-an.	July '71 3
Central Ohio.....50	2,437,950	semi-an	July '82 3	" pref. 100	1,500,000	q'arterly	July '82 4	Grand St. & Newton. 100	170,091	semi-an.	July '81 2 1/2
" pref. 50	411,550	semi-an	July '82 3	N. Y. City Line.....100	77,083,000	annual	Jan. '82 6	Green & Coates St. (Ph) 50	150,000	q'arterly	July '82 3
Central Pacific.....100	59,275,500	semi-an	Aug. '82 3	N. Y. Lake Erie West. 100	1,585,825	semi-an.	Jan. '82 6	Heenan, Mantauk & Fm 50	299,381	semi-an.	Jan. '75 4
Chemung.....100	380,000	q'arterly	July '81 1 1/2	" pref. 100	15,500,000	semi-an.	Jan. '82 5	Highland.....100	600,000	semi-an.	July '82 4
Chesapeake preferred. 100	2,155,300	semi-an	July '82 1 1/2	N. Y., N. H. & Hart. 100	15,500,000	q'arterly	May '82 2	Lomb. & South St. (Ph) 25	195,000	semi-an.	May '82 4
Chicago and Alton.....100	11,181,741	semi-an	Mar. '82 4	N. Y., Prov. & Boston 100	3,000,000	q'arterly	May '82 2	Lynn and Boston.....100	200,000	semi-an.	May '82 4
" pref. 100	2,245,400	semi-an	Mar. '82 4	Niag. Bridge & Canad* 100	1,000,000	semi-an.	Sep. '81 3	Malden and Melrose. 100	165,000	semi-an.	.....
Chi., Burl. & Quincy.....100	55,337,455	q'arterly	June '82 2	North Carolina.....100	3,000,000	semi-an.	Sep. '81 3	Metropolitan (Bost.) 100	1,500,000	semi-an.	May '82 4
Chi., Iowa & Nebras* 100	3,916,200	semi-an	July '82 4	N. Eastern (S. C.) pref 100	86,000	semi-an.	May '81 4	Middlesex (Boston). 100	650,000	semi-an.	May '82 3 1/2
Chi., Mil. & St. Paul. 100	20,404,261	semi-an	Apl. '82 3 1/2	Norfolk & Western pref 100	15,000,000	q'arterly	May '82 1 1/2	N. Y., Bay Ridge & Jam. 100	150,000	.....	Oct. '78 7
" pref. 100	14,401,483	semi-an	Apl. '82 3 1/2	North Pennsylvania. 50	4,527,150	q'arterly	May '82 1 1/2	Ninth Av. (N. Y.)... 100	767,320	.....	.....
Chi. & N. Western.....100	14,988,257	semi-an	June '82 3 1/2	Northern Central.....50	6,142,000	semi-an.	June '82 3	Orange & Newark.....100	282,555	.....	.....
" pref. 100	21,525,353	q'arterly	June '82 2	Northern N. Hampshire 100	3,068,400	semi-an.	June '82 3	People's (Phila.) pref. 25	124,744	semi-an.	July '82 2
Chi., R. I. & Pacific.....100	41,960,000	q'arterly	Aug. '82 1 1/2	Northern N. Jersey* 100	1,000,000	semi-an.	July '80 2 1/2	Philadelphia City... 50	475,000	semi-an.	July '82 4
Chi. & West Mich. 100	6,151,000	q'arterly	Feb. '82 2 1/2	Norwich & Worcester* 100	2,604,400	semi-an.	July '82 5	Phila. and Darby.....20	200,000	semi-an.	July '81 3 1/2
Chi., St. P., M. & O. pref. 100	10,390,000	q'arterly	July '82 1 1/2	Ohio.....100	18,500,000	semi-an.	Mar. '75 3 1/2	Phila. & Grey's Ferry 50	308,000	q'arterly	Oct. '81 3
C. Ind., St. & C. Ind. 100	6,000,000	q'arterly	July '82 1 1/2	Ohio and Miss. pref. 100	4,030,000	semi-an.	Mar. '75 3 1/2	Pbg. Alleg. & Manches. 50	300,000	q'arterly	Oct. '81 11
Cin., Sand. & Cleve. pf. 50	429,037	semi-an	May '82 3	Old Colony.....100	7,333,800	semi-an.	July '82 3 1/2	Ridge Avenue (Ph.)... 50	420,000	semi-an.	Oct. '81 11
Clev. & Mahoning* 50	3,759,200	semi-an	Nov. '81 3 1/2	Oregon R'way & Nav. 100	6,000,000	q'arterly	May '82 2	Second Avenue (N. Y.) 100	1,199,500	q'arterly	July '81 2 1/2
Clev. and Pittsburg* 50	11,244,336	q'arterly	June '82 1 1/2	Oswego & Syracuse. 100	1,300,400	semi-an.	Aug. '81 4 1/2	Second & Third St. (Ph) 50	177,076	q'arterly	Jan. '82 4 1/2
Columbus & Xenia* 50	1,786,200	q'arterly	Aug. '82 2	Panama.....100	7,000,000	semi-an.	July '82 6 1/2	17th & 19th sts (Ph.) 50	250,000	semi-an.	Oct. '81 3
Colum. & Hocking Val. 100	2,500,200	semi-an	Aug. '81 20 1/2	Paterson & Hudson. 100	630,000	semi-an.	July '82 4	Sixth Avenue (N. Y.) 100	750,000	semi-an.	Oct. '81 5
Concord.....100	1,500,000	semi-an	May '82 5	Paterson & Ramapo. 100	248,000	semi-an.	July '82 4	Somerville (Boston). 100	113,000	semi-an.	May '82 3
Concord and Ports. 100	350,000	semi-an	July '82 3 1/2	Pember. & Hightst* 50	342,150	semi-an.	Jan. '82 3	South Boston.....100	600,000	q'arterly	Nov. '81 5
Conn. & Passump. Riv. 100	2,244,400	semi-an	Feb. '82 3	Pennsylvania Coal... 50	77,672,750	semi-an.	June '81 2 1/2	Third Avenue, N. Y. 100	2,000,000	q'arterly	Nov. '81 5
Connecticut River. 100	2,100,000	semi-an	July '82 4	Peoria & Bureau Val* 100	1,200,000	semi-an.	Feb. '82 4	13th and 15th sts. Ph 50	334,529	semi-an.	Aug. '81 4
Cumberland Valley. 50	1,292,950	q'arterly	July '82 2 1/2	Philadelphia & Erie* 100	7,013,700	semi-an.	.....	Union, Boston.....100	374,300	semi-an.	Jan. '82 4
" 1st pref 50	241,900	semi-an	Apl. '82 4	" pf 50	2,040,000	semi-an.	Jan. '75 4	Union, Phila.....100	1,005,000	semi-an.	Jan. '82 7
" 2d pref. 50	243,000	semi-an	Apl. '82 4	Phil. Ger. & Norrist* 50	2,231,900	q'arterly	June '82 3	West Philadelphia... 50	750,000	semi-an.	July '77 10
Danbury and Norwalk. 50	600,000	semi-an	Apl. '82 1 1/2	Phil. and Reading... 50	32,726,375	q'arterly	Jan. '76 2 1/2	CANALS.			
Dayton and Mich.* 50	2,402,573	semi-an	July '82 1 1/2	" pref. 50	1,551,800	q'arterly	July '76 3 1/2	Chesapeake and Dela 50	2,078,038	semi-an.	June '75 2
" pref. 50	1,211,250	q'arterly	July '82 2	Phila. and Trenton. 100	1,250,100	q'arterly	July '82 2 1/2	Delaware Division. 50	1,633,350	semi-an.	Feb. '82 1
Delaware.....25	1,468,940	semi-an	July '82 3	Phila., Wil. and Balt. 50	11,585,750	semi-an.	July '82 4	Delaware and Hudson 100	20,000,000	q'arterly	June '81 1 1/2
Del. & Bound Brook* 100	1,652,000	q'arterly	May '82 1 1/2	Pittsb., Ft. W. & Chi. 100	19,714,285	q'arterly	July '82 1 1/2	Delaware & Raritan* 100	5,847,400	q'arterly	June '82 1 1/2
Del., Lack. & Western 50	26,200,000	q'arterly	July '82 2	" Special Imp. 100	6,770,900	q'arterly	July '82 1 1/2	Lehigh Coal and Nav. 50	1,004,250	semi-an.	June '82 2
Denver & Rio Grande. 100	29,160,000	q'arterly	Jan. '82 1 1/2	Pittsfield & Adams. 100	450,000	semi-an.	July '82 2 1/2	Monongahela Nav. 50	1,004,250	semi-an.	July '81 1/2
Den., South P. & Pac. 100	3,500,000	semi-an	Aug. '80 4	Portl., Saco & Portsmouth 100	1,500,000	semi-an.	July '82 3	Morris, consolidated. 100	1,025,000	semi-an.	Feb. '81 2
Detroit, Lans. & Nor. 100	1,825,600	semi-an	Aug. '80 2 1/2	Providence & Worcester 100	2,000,000	semi-an.	July '82 3	" preferred. 100	1,175,000	semi-an.	Feb. '81 5
" pref. 100	2,503,380	semi-an	Feb. '82 3 1/2	Rensselaer & Saratog. * 100	7,000,000	semi-an.	July '82 4	Pennsylvania.....50	4,501,200	.....	.....
Dubuque & Sioux C' y 100	5,000,000	semi-an	Apl. '82 3	Rhode Island & Mass. 100	100,000	.....	Jan. '81 3	Schuyl. Nav., com. * 50	859,100	annual.	Aug. '81 500.
East Pennsylvania* 50	1,709,550	semi-an	July '82 3	Richmond & Danv. 100	3,866,000	q'arterly	May '82 2	" pref. 50	3,200,000	annual.	Aug. '81 1
East Mahanoy.....50	392,450	semi-an	July '82 3	Richmond & Petersb. 100	1,009,300	semi-an.	Jan. '81 3	MISCELLANEOUS.			
Eastern (N. H.).....100	492,500	semi-an	June '82 2 1/2	Roch. & Genesee Val. * 100	555,200	semi-an.	July '82 3	Adams Express.....100	12,000,000	q'arterly	June '82 2
Eel River.....100	3,000,000	q'arterly	June '82 3 1/2	Rome, Watert. & Ogd. 100	5,293,900	semi-an.	July '75 1 1/2	American Express... 100	18,000,000	semi-an.	July '82 3
Elmira, Jef. & Canad* 100	500,000	annual	Sep. '80 5	Rutland preferred. 100	4,000,000	semi-an.	Feb. '82 1	Amoskeag Manuf. Co. 100	3,000,000	semi-an.	June '81 5
Elmira & Williamst* 50											

RAILROAD EARNINGS—MONTHLY.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
BURL., CEDAR RAP. & NORTHERN:													
1880.....	184,316	165,170	188,395	141,652	149,504	153,378	143,432	160,160	179,804	204,991	189,330	193,419	2,053,484
1881.....	167,750	124,510	148,551	184,680	165,030	205,912	174,351	209,112	221,801	221,748	203,880	232,812	2,259,037
1882.....	252,823	225,631	224,107	178,304	199,278	211,257	.....	.....	.....	.....	.....	.....	.....
CENTRAL PACIFIC:													
1880.....	1,200,614	1,070,487	1,373,438	1,356,716	1,778,488	1,724,950	1,840,067	1,973,438	1,964,997	1,120,229	2,199,466	1,905,221	20,508,112
1881.....	1,240,907	1,454,218	1,709,637	1,872,370	2,091,410	2,159,381	1,859,000	2,059,000	2,293,000	2,514,000	2,267,000	2,110,000	23,947,951
1882.....	1,876,000	1,702,000	1,987,000	2,052,000	2,353,000	2,239,000	.....	.....	.....	.....	.....	.....	.....
CHESAPEAKE AND OHIO:													
1880.....	202,335	108,681	222,762	221,559	199,443	214,352	238,236	259,110	247,303	211,820	240,795	218,000	2,674,308
1881.....	162,540	184,389	228,479	227,343	252,235	241,135	225,096	262,858	247,144	237,303	235,585	210,562	2,702,762
1882.....	210,455	209,708	208,981	207,454	255,939	260,753	.....	.....	.....	.....	.....	.....	.....
CHICAGO AND ALTON:													
1880.....	534,054	497,013	626,473	542,961	616,128	617,524	708,906	761,120	767,349	785,199	606,776	574,695	7,718,198
1881.....	487,890	401,641	529,915	558,190	548,556	635,860	671,466	771,466	768,897	750,359	680,133	635,307	7,553,988
1882.....	579,447	530,480	584,483	501,787	553,412	613,886	.....	.....	.....	.....	.....	.....	.....
CHICAGO AND NORTHWESTERN:													
1880.....	1,154,632	1,131,683	1,361,725	1,294,573	1,875,608	1,671,177	1,699,686	1,767,938	2,020,245	2,105,217	1,855,671	1,477,902	19,416,007
1881.....	1,240,667	1,178,795	1,474,612	1,574,371	1,879,006	2,306,640	1,983,031	2,315,164	2,292,676	2,019,097	1,855,476	1,855,476	21,324,150
1882.....	1,620,336	1,471,945	1,096,568	1,034,819	2,058,133	2,022,100	.....	.....	.....	.....	.....	.....	.....
CHICAGO, BURLINGTON AND QUINCY:													
1880.....	1,432,740	1,411,870	1,732,518	1,489,894	1,909,627	1,682,956	1,773,643	1,834,321	1,862,285	1,934,762	1,837,860	1,552,018	20,454,494
1881.....	1,307,948	1,034,821	1,418,149	1,574,371	1,679,455	2,083,803	1,888,558	2,173,945	2,262,981	2,031,001	1,816,133	1,905,490	21,324,150
1882.....	1,058,834	1,457,300	1,566,217	1,530,838	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHICAGO, MILWAUKEE AND ST. PAUL:													
1880.....	764,298	738,749	900,675	871,041	1,134,745	1,037,958	1,026,708	991,297	1,257,677	1,493,620	1,472,037	1,307,308	13,086,119
1881.....	990,847	916,989	1,259,946	1,538,491	1,538,491	1,729,811	1,560,000	1,678,000	1,645,000	1,590,000	1,569,000	1,855,000	17,025,462
1882.....	1,435,000	1,377,000	1,561,000	1,518,000	1,629,000	1,620,000	.....	.....	.....	.....	.....	.....	.....
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA:													
1880.....	193,827	173,078	259,783	259,208	232,146	218,093	236,995	251,013	300,833	342,052	342,894	312,173	3,122,097
1881.....	257,786	158,594	251,648	261,211	350,124	404,502	392,702	385,586	363,685	322,714	380,733	391,950	3,981,296
1882.....	307,498	315,100	405,779	356,558	406,420	363,109	.....	.....	.....	.....	.....	.....	.....
CINCINNATI, INDIANAPOLIS, ST. LOUIS AND CHICAGO:													
1880.....	155,697	172,541	198,220	168,199	186,995	200,332	204,138	233,478	343,627	239,881	209,014	198,254	2,412,185
1881.....	182,523	171,511	181,005	183,710	191,056	188,256	178,861	229,858	219,977	212,606	194,805	192,623	2,290,916
1882.....	200,042	186,879	208,066	204,269	199,110	.....	.....	.....	.....	.....	.....	.....	.....
DENVER AND RIO GRANDE:													
1880.....	124,759	126,922	160,883	164,882	193,925	295,455	373,132	400,133	406,583	473,318	408,562	349,196	3,478,007
1881.....	307,476	317,681	308,493	433,111	514,707	582,230	548,284	606,193	620,643	665,686	566,819	643,417	6,206,812
1882.....	491,914	412,987	535,055	559,917	614,298	537,462	.....	.....	.....	.....	.....	.....	.....
HANNIBAL AND ST. JOSEPH:													
1880.....	176,079	166,965	216,061	206,735	191,317	179,396	224,312	238,081	233,448	242,214	207,147	279,635	2,561,391
1881.....	154,401	122,874	176,356	190,812	172,950	179,740	198,110	215,308	202,567	313,433	201,782	180,376	2,230,966
1882.....	138,284	154,717	168,798	148,913	154,917	155,030	.....	.....	.....	.....	.....	.....	.....
ILLINOIS CENTRAL:													
1880.....	595,212	613,806	613,008	535,732	665,120	681,736	724,095	732,755	806,836	880,211	783,120	673,182	8,304,812
1881.....	631,281	524,499	557,789	662,493	673,259	683,887	720,004	868,407	828,847	815,238	737,218	763,475	8,586,397
1882.....	728,173	689,387	695,371	674,603	674,749	663,746	.....	.....	.....	.....	.....	.....	.....
INDIANA, BLOOMINGTON AND WESTERN:													
1880.....	80,498	89,690	116,185	90,374	85,733	106,954	103,438	116,732	110,622	121,343	96,621	104,619	1,233,079
1881.....	90,283	83,261	102,085	203,677	200,064	199,846	83,764	117,956	195,307	181,674	160,826	156,697	.....
1882.....	195,824	175,755	206,235	205,934	182,554	186,133	.....	.....	.....	.....	.....	.....	.....
LOUISVILLE AND NASHVILLE:													
1880.....	674,455	575,035	612,593	563,883	655,014	976,229	772,537	827,088	931,910	1,000,326	953,086	949,184	9,491,346
1881.....	816,960	805,124	947,959	850,862	828,726	1,227,885	817,135	876,192	951,566	1,002,950	1,065,223	1,122,285	11,326,859
1882.....	950,065	960,036	1,073,745	950,007	946,435	1,187,385	.....	.....	.....	.....	.....	.....	.....
MOBILE AND OHIO:													
1880.....	250,116	204,094	168,301	140,091	129,249	121,855	131,621	140,593	184,246	264,714	251,368	287,373	2,373,621
1881.....	224,347	216,768	230,916	150,551	145,803	136,517	131,009	159,348	209,044	252,921	252,434	262,025	2,406,437
1882.....	161,433	158,154	152,651	145,272	137,645	132,572	.....	.....	.....	.....	.....	.....	.....
NASHVILLE, CHATTANOOGA AND ST. LOUIS:													
1880.....	205,633	191,154	169,457	155,466	158,839	144,155	151,594	169,326	167,473	178,266	182,087	175,996	2,049,448
1881.....	178,143	190,866	207,710	130,525	104,430	154,549	150,430	168,317	179,979	172,121	152,059	173,127	2,075,256
1882.....	156,994	159,961	161,005	154,155	137,045	.....	.....	.....	.....	.....	.....	.....	.....
NEW YORK AND NEW ENGLAND:													
1880.....	164,232	149,907	183,845	179,689	183,701	219,891	205,056	249,885	235,642	215,491	210,856	198,108	2,396,302
1881.....	189,749	173,614	212,019	217,185	231,518	219,518	246,821	280,524	299,573	261,199	242,412	237,729	2,809,255
1882.....	213,840	217,261	265,222	263,544	283,244	290,000	.....	.....	.....	.....	.....	.....	.....
NEW YORK, LAKE ERIE AND WESTERN:													
1879.....	1,147,173	1,207,391	1,356,780	1,372,755	1,350,574	1,230,419	1,273,533	1,450,223	1,492,497	1,713,697	1,515,835	1,398,224	16,509,127
1880.....	1,296,381	1,252,218	1,644,958	1,643,151	1,592,544	1,661,812	1,580,976	1,606,874	1,786,417	1,899,910	1,799,338	1,726,788	19,149,361
1881.....	1,443,437	1,425,765	1,847,261	1,709,057	1,776,891	1,794,982	1,787,081	1,772,895	1,734,200	.....	.....	.....	.....
NORTHERN CENTRAL:													
1880.....	334,494	330,860	415,325	386,130	329,788	419,103	450,208	453,923	464,093	512,918	459,054	494,310	5,050,387
1881.....	386,157	382,657	452,906	467,273	405,588	487,287	490,811	498,008	492,565	449,664	487,160	476,622	5,443,697
1882.....	407,368	413,551	430,194	435,129	422,607	.....	.....	.....	.....	.....	.....	.....	.....
NORTHERN PACIFIC:													
1880.....	81,390	77,259	119,357	185,700	217,613	253,105	241,277	223,500	330,300	358,456	300,822	290,993	2,629,710
1881.....	116,508	78,803	162,984	216,210	312,705	412,024	404,180	411,624	490,096	505,485	428,903	434,331	4,044,576
1882.....	239,800	269,000	384,000	438,000	568,332	631,342	.....	.....	.....	.....	.....	.....	.....
PHILADELPHIA AND ERIE:													
1880.....	224,307	245,372	327,678	334,947	311,470	331,024	308,699	347,532	322,737	367,082	324,066	281,919	3,727,733
1881.....	224,303	225,501	285,573	293,323	343,792	350,585	291,669	303,849	276,522	292,392	284,078	282,772	3,454,309
1882.....	252,727	246,246	265,311	277,851	341,415	.....	.....	.....	.....	.....	.....	.....	.....
ST. LOUIS AND SAN FRANCISCO:													
1880.....	198,091	195,948	193,146	176,164	167,664	173,607	213,297	259,995	280,873	328,194	290,329	226,063	2,698,37

CORRESPONDENCE.

[We pay no attention to communications unless the name and address of the writer are given, though the same will not be published if so requested. We assume no responsibility for statements made by correspondents, and we do not necessarily endorse ideas advanced by them. Under these conditions we think it of value to our readers to devote a liberal space to the free discussion by others—whose opinions may be at variance with our own—of subjects pertinent to our department of journalism.]

Early Railroads and Locomotives.

Editor AMERICAN RAILROAD JOURNAL:

My short article on early railroads and locomotives, as published in the AMERICAN RAILROAD JOURNAL in May, has had the effect to scare up quite a large number of claimants for the honor of priority of both locomotives and drivers.

Among the most persistent of them is the *Honesdale Citizen* of September 29th, 1881, which claims that Horatio Allen imported an engine from England in 1829, which was put upon the Delaware and Hudson Railroad (I think; as I have not the paper before me I may be mistaken in the name of the road). I shall not attempt to deny any portion of the statement therein made, but only say, that from that statement the whole concern was a miserable failure.

The first trip of the "Stourbridge Lion" (the name of the engine) was its last; it was run a few miles by Mr. Allen, out and back to Honesdale, gave one roar, and gave up the ghost. Another amusing instance appeared in the *N. Y. Herald* a short time since, to wit, "In 1832 a locomotive engine, the largest so far made, was built under the auspices of Governor DeWitt Clinton and named after him. It was used on the Mohawk and Hudson road." Governor DeWitt Clinton died February, 1828; that gives a quietus to that history. The Hon. Thurlow Weed gives his account of the first trip over the Mohawk and Hudson road in 1831, in company with a number of other distinguished gentlemen of that day, several of whom I knew personally; all which, save one point, is very correct; and that one mistake can be satisfactorily explained; he mistook the popping of champagne corks for the puffing of a locomotive.

For I know that for two or three years after the completion of the Mohawk and Hudson road it was operated by horse-power alone. I know I am not mistaken, for I was there and engaged in working from day to day for the Schenectady end of the road, and know there was not a locomotive on that road at that time. If necessary, I can take up several other claimants for priority, and dispose of them as easily as the foregoing, but do not wish to occupy too much space in your interesting paper and will close by reiterating: That the first locomotive successfully run upon any railroad in the United States was the "Stephenson" engine on the Schenectady and Saratoga road, in the year 1831 or 1832, I am not positive which, and which I assisted in setting up, repairing, and running from time to time.

There were a number of engines built about that time, all of which were failures. The

first improvements made upon the aforesaid Stephenson engine originated at the Baldwin Works, Philadelphia.

It was a prevalent opinion in the early days of the enterprise that railroads could only be used for rapid transit in the conveyance of passengers; that they could not be used for the conveyance of freight, as the canals and other navigable water courses were beyond competition for that purpose. What a huge mistake!

J. V. B.

CLARKSVILLE, GA., JULY 8, 1881.

Railroad Medical and Sanitary Service.
No. II.

Editor AMERICAN RAILROAD JOURNAL:

In my last communication I spoke of the importance of examining certain classes of railroad employes, for the purpose of discovering such physical defects as might disqualify them for being entrusted with the safety of lives and property *in transitu*. It is generally agreed that such examinations are best made by medical men, if made at all; but the management of the Pennsylvania Railroad, on the advice of their examiner-in-chief, adopted the plan of carrying out the details by the superintendents or other non-medical officers, under rules framed by the medical expert. Doubtful cases, of course, must be referred to the expert. It appears, however, that the examinations are limited to defects of vision and hearing, leaving out of account the condition of the heart and lungs, the existence of aneurism and epilepsy, liability to apoplexy, etc. Tests for these latter should certainly not be left to laymen; an early stage of cataract, not yet seriously interfering with vision, would only be discovered by a careful medical inspection; while the temporary obstruction of the external auditory canal by accumulation of ear-wax, or of the eustachian tubes by a recent catarrh, might occasion a deafness which would lead to total rejection by a layman. The subject of syphilitic eye affections also would suffer similar injustice at the hands of a non-medical examiner.

I am not informed whether the Pennsylvania Railroad Company has a surgical and medical service, and presume it has none; otherwise it is clear that its medical staff would be called on to conduct the examinations. The importance of the curative branch of service is much more generally appreciated by railroad managers and adopted in some shape by a number of the largest and most enterprising companies. Where this already exists, the examination feature could be carried out without material increase of the medical staff or of expense. The experience of the Central Pacific, the Baltimore and Ohio and the Atlantic and Pacific railroads, shows the practicability of sustaining the system upon an assessment on all classes of employes, as was long ago proved in the merchant marine of the United States, which has a staff of medical officers second to none in the world in attainments and efficiency.

Railroad companies could not select their medical men by competitive examination, as is the case in the Army, the Navy, and the Marine Hospital Service; but it is clear that able and

enterprising young practitioners would readily accept their service for the moderate compensation afforded by the assessment, supplemented by the presumed advantage of being known as the company's surgeons and facilities for extending their private practice along the line.

In such a system, the first and indispensable need for success would be the selection of a suitable man for head of the department, since he should be charged with the choice of the local medical men, with the arrangement of the details of the service, in conjunction with the general management, with their superintendence in full and their execution in part; for the general manager or superintendent should no more undertake to supervise this service than to oversee the workshops. A medical and sanitary superintendent must not be chosen by competitive examination, for administrative qualities can not be discovered in that way; still less should the choice be governed by connection in blood or marriage. Naturally, and in reality, professional eminence seems to determine, more than any other consideration, the choice of a railroad medical superintendent; and professors in medical colleges, in instances to my knowledge, hold these positions. The name of a prominent medical teacher may in itself give some *clat* to such a service, and it may rightly be supposed that a man who has achieved distinction in one branch of his profession is capable of great success in another; but this is conditional upon giving his time and energies to the work.

In this country physicians not in public service live by private practice, or aspire to do so. Those who have other occupations, even professors in medical schools, actually, if not avowedly, subordinate everything else to private practice. Salaried hospital surgeons are generally allowed to take private practice, and are sure to avail themselves of every such opportunity.

The local medical men of a railroad cannot be supported by this service, and must continue to practice as usual; but I hold that the chief medical officer should give his whole time to the company, as well as the general manager and the superintendent. Not only must he be in readiness to go to any point on the line at the shortest notice for relief duty, but his sanitary functions will require him to travel back and forth about as constantly as the superintendent. It would be as improper for such an officer to engage in private practice as for the master mechanic to take outside jobs of work.

S. S. H.

NEW ORLEANS, JULY 16, 1882.

LONDON Life: Railway Salute:—Station master, to suspicious looking lady (aged) who had just entered a premiere class compartment, "Are you first-class, ma'am?" Aged lady—"Yes, thank you; how are you, sir?"

CANADA now has a law to squelch the ticket scalper, and, according to reports, it is a success; at any rate, it is said a great many of that industrious fraternity are leaving the Land of Lorne for the free States. Chicago catches most of them.

Railroads in Mexico.

In the progress and prosperity of any country there are several important factors. Chief amongst these may be reckoned natural resources, population, education, and means of transportation. With the first of these Mexico is richly endowed. It is doubtful if any equal area on the face of the globe possesses larger deposits of the precious metals, or has already produced more of them. Her coast lands for the most part are exceedingly fertile, producing in abundance the best growths of the tropics, but they have an unhealthy climate and can never be developed by the labor of white men.

The interior may be described as a vast table land, elevated from 5,000 to 9,000 feet above the sea, and possessing a climate favorable, wherever water is found, to all the crops of the temperate zone. Much of it, however, is arid and sandy, and in the north particularly, water is scarce. Between these two great natural divisions lie what the Spaniards called the temperate lands, where frost and excessive heat are unknown, and where everything that is grown from New York to Florida will thrive and yield abundantly.

These temperate lands, consisting of terraces or benches separated by steep slopes and deep valleys, and situated as they are for the most part in a comparatively narrow belt, are alike a bar to the existence of navigable streams and the easy construction of good roads connecting the interior with the coast. Partly from this cause and partly from the unprogressive character of the population or the disturbed state of the country, the pack-saddle and the primitive wagon have hitherto been the only means of transportation. This vast territory of 760,000 square miles, with a population estimated at ten millions, equals in extent our States east of Mississippi and south of Michigan, while its population hardly exceeds that of New York and Pennsylvania. Two-thirds of the population are of pure Indian blood, the remaining third being either of Spanish descent or of mixed races.

Now it is evident that any rapid progress in Mexico must come through colonization by some higher and more progressive race, or by the introduction of capital in large amounts to develop her natural resources by the aid of the native races, who are generally peaceable and industrious. Yet, in a land with the climate of Mexico, where the wants and desires of the natives are so limited, it will be contrary to all experience elsewhere if they should become a hard-working people from the mere desire of accumulation. Under no circumstances could much improvement be looked for without improved means of transportation, of which the Government was well aware, as is shown by the many liberal subsidies it has granted to various railroad enterprises.

Let us now look at the principal lines in course of construction, or for which the required funds have been subscribed. First and most important of these is the Mexican Central, whose main line extends northward from the city of Mexico, by Queretaro, Guanajuato and Leon, to Zacatecas, and thence through the States of Durango and Chihuahua to El

Paso, where it connects with the Atchison, Topeka and Santa Fe Railroad, and other lines. It has also an interoceanic line from Tampico, on the Gulf of Mexico, to San Blas, on the Pacific, passing through San Luis Potosi, Lagos (on the main line), and Guadalajara.

Next in extent is the Mexican National (narrow gauge), whose so-called interoceanic line extends from the city of Mexico, by Toluca, Maravatio, Morelia, Zamora, and Colima, to Manzanillo, on the Pacific. Its international line leaves its interoceanic line near Maravatio, and crossing the line of the Central, extends northward by San Luis Potosi, Saltillo, and Monterey, to Laredo on the Rio Grande, where it will connect with the Texas system of railroads, and perhaps with the southern extension of the Denver and Rio Grande (narrow gauge). In the northwest is the Sonora Railway, extending through the State of that name, from the port of Guaymas, on the Gulf of California, by Hermosillo, Ures and Arispe, into Arizona and New Mexico, to a connection with the Southern Pacific, and Atchison, Topeka and Santa Fe railroads. On the northwest coast is also the Sinaloa and Durango Railway, to connect Altata, the port of Culiacan, with Durango, or some point near it, on the Mexican Central. The Tehauntepec Railroad is far to the south, crossing the isthmus of that name by a short and favorable route, through a fertile and, strange to say, healthy country, swept by the fresh breezes of the trade-winds. It is destined apparently to be a route of great importance, effecting as it does a saving of 1,150 miles between New York and San Francisco, as compared with the Panama route. It is also the route proposed by Captain Eads for a ship railway.

All capital invested in these railroads, as well as all material imported for their construction, operation and repair, is exempt from taxes or imposts for a long term of years.

Among the other projects should be mentioned the concession for a railroad from the coal-fields on the Yaqui River, in Sonora, to the port of El Morrito, on the Gulf of California, a distance of about 120 miles. The existence of the valuable coal-fields has been known for some time. The coal is said to be anthracite, and to be found in two veins, the upper about nine feet thick, the lower about seven. They are both near the surface, and have been traced over a considerable area. These, and the great iron mountain near the city of Durango, which is a solid mass of rich ore seven-eighths of a mile long, 360 yards wide, and 210 yards in height, may prove sources of greater wealth than the richest silver mines.

The Mexican Southern Railroad is an enterprise incorporated under the laws of New York by some of the most prominent men of the two republics. It starts with the modest "capital of not less than ten millions of dollars, which may be increased from time to time as may be deemed necessary by the directors and a majority of the stockholders." Its purpose is to operate in Mexico railways and telegraph lines, also to build elevators and to construct or purchase and navigate steam and sailing vessels as may be proper in connection with the company's business in Mexico. This seems

a sufficiently comprehensive scheme to satisfy the most ambitious mind.

The Mexican Central also intends to build a branch from their main line in Durango to Laredo, on the Rio Grande. As this would be a much shorter route from the city of Mexico to all points east of the Mississippi than that by El Paso, and also compete with the more direct route of the National, it is sure to be built at an early day.

The distance from New York to the city of Mexico by the Texas route will be about 2,700 miles, or 600 miles less than to San Francisco—a fact worth remembering when thinking of our relations with Mexico. Several shorter railroads are in progress, and the number of miles of railroad already built is about 700.

To those accustomed to the rapid progress of our Western States it might appear that the opening up by railroads of a great productive region, already possessing a considerable population, must result in the rapid development of a large and profitable business. But it is not a parallel case.

The country to be opened up is old, and its population widely different from the energetic and enterprising races to whom that rapid progress is due. We are told of the vast resources and extent of Mexico, the business that must spring up, the favors granted by Government to projected railroads, and people point to the great capitalists whose names head the subscription lists, and whose fortunes are largely due to successful railroad management.

But before we speculate too much on what railroads may do for Mexico, let us glance at the experience and results of a railroad 354 miles long, including branches, connecting the capital and the principal port of the republic, which has been in operation for seventeen years. This is the Mexican Railway, built by English capital, and serving with its main line or branches some of the largest and busiest cities of the republic. Here is a railroad apparently so situated as to monopolize a large traffic, and receiving enormous rates for freight, varying from twenty-two cents per ton per mile on imported merchandise to three and three-quarter cents on exports, with an average rate of fourteen and a half cents. It has also an annual subsidy of \$560,000 a year, which is paid with more or less regularity. Its business has been improving lately, but it has a heavy capital account of \$107,000 per mile, and it was not till 1880 that even with those high rates anything was earned on the common stock, on which, for the first half of that year, the magnificent dividend of one-quarter of one per cent was declared. After so many years for development, let us see what its business amounted to. Fifteen cars per day would have carried all the freight it shipped from Vera Cruz to the interior, while from the great city of Mexico there was barely freight enough shipped to fill three cars per day. This is reckoning a car-load at ten tons, and not including Sundays. Yet in spite of this, and with high operating expenses, its net earnings for the first half of 1880 were at the large rate of \$5,710 per mile per annum. This profit is clearly due to its high rates and annual subsidy, and not to any large business. Does this

look promising for the rapid growth of traffic in Mexico? On the other hand, the new lines will open up large tracts, rich in the products of the soil and of the mines, hitherto practically isolated, and new sources of business may be developed.

Now let us look at the largest and most important of these, the Mexican Central Railway. Its main line is about eleven hundred miles long, the northern half of which traverses an arid and thinly peopled region, and its rates are limited to 8.7, 5.8, and 3.6 cents per ton per mile for first, second and third class freight. The third-class rate is only a little less than on the English line, but the first-class is less than half that obtained by the English line on its most profitable freight, namely, imported merchandise; and in reckoning net profits we must not forget the ten per cent or more discount on Mexican silver. We do not know what estimates have been made of the business of the Mexican Central, but it would seem as if the experiences of the English line should not be overlooked, and that a cheap line with low capital account was the first condition to success.

From the great natural resources of the country, the healthful and pleasant climate of the interior, and the many opportunities for the profitable investment of capital in mining, agriculture and commerce, Mexico seems to present great attractions to the citizens of the United States. They should remember, however, that there are important differences between the two countries. In the first place, so long as heavy and almost prohibitive duties remain in force on almost everything except the products of the mines, the development of her other resources must be mainly limited by the demands of home consumption. Were it not for these restrictive duties, with cheap land and labor, and light internal taxes, cotton, coffee, sugar, rice, tobacco, fine wools, paper stock, hemp, indigo and many other articles of value, could be produced at so low a cost that Mexico would enter the markets of the world as a great producer of the most valuable articles of commerce. Increase of wealth and population would soon follow, and where agriculture thrives and wealth increases, manufactures soon follow.

In commerce with Mexico, what has given England, and particularly Germany, a great advantage over us is the practice of their great houses of having resident partners, who become familiar with the language, the customs and the wants of the natives. These men order out goods suited to the country, and, indeed, often order their manufacture to suit some particular market. The long credits, running six, twelve or even eighteen months, are better suited to English and German ideas than to our notions of quicker returns.

That the present rapid construction of railroads will cause increased demands for labor, and the disbursement of vast sums in a short time, as well as an era of more or less speculation and inflation, must be evident to every one. While rolling-stock, rails, and the larger bridges will be imported, the amount paid out in Mexico for labor and supplies can not fall short of \$5,000 per mile; and as construction

will be carried on from both ends at once of several of these roads, the number of miles annually constructed will be very large. No doubt many other lines will be in progress long before those already enumerated are completed.—*Harper's Monthly*.

Praise of Iron.

MR. JOSEPH WHARTON, of Philadelphia, a former vice-president of the American Iron and Steel Association, made a free translation as follows from the German poet Arndt, in his "Lob des Eisens," that is "Praise of Iron."

It sets the plow upon the lea,
The earth for man to conquer.
It guides the ship upon the sea;
It holds her safe at anchor.
It builds strongholds and pleasant homes,
It fills the house with art;
And, as a magic wand, it comes
To turn the lightning's dart.

And, again, translating from Arndt's poem "Vaterlandslied," the same gentleman obtains patriotic inspiration as follows:—

The God whose will made iron grow
Willed no man to be slave;
Therefore the gleaming lance and sword
To man's right hand He gave.

Railways and the Public.

TAKING an average calculated for the whole country, a railway passenger, when he pays \$1 for his fare contributes 15 cents of that amount to the stockholders, 20 cents to the bondholders and 65 cents towards paying the cost of operating the roads, the latter being distributed, directly or indirectly, chiefly for wages to working people. These are the figures for all the roads in the country, taking the aggregates for dividends, interest payments and operating expenses. Of course, on some roads the whole of the dollar goes to the working mechanics, laborers, conductors, engineers and other employes, the stockholders getting nothing. The dollar, or a large part of it is, moreover, quickly returned to the shopkeepers of the country, for there are over a million and a half of railroad employes withdrawn from productive labor, whose wages pass regularly into the hands of the farmers and manufacturers who supply them with the necessaries of life. There are a good many different ways of looking at railroads and railroad corporations, and this is one of the ways in which they appear to be not quite so black as they are usually painted.—*Philadelphia Ledger*.

A Perpetual Motion Clock.

MR. DARDENNE's self-winding perpetual clock may now be considered to have had a fair trial. A specimen clock was fixed at the Gare du Nord Terminus, Brussels, last September, all due precautions being taken to avoid tampering with it by affixing the government seal. After six months' trial it was found in perfect time with the Observatory clock, and had not varied in the slightest degree during that time. The clock is wound by a small anemometer or windmill, which is placed in a ventilation pipe, chimney, or any place where a tolerably constant current of air can be relied on. This windmill is, by a reversed train of multiplying wheels, continually drawing over a wheel an

endless chain, in one loop of which the clock weight is supported. As the loop hangs between the clock and the winding-machine, the weight is continually drawing through the clock the slack chain drawn up by the wind motor, and thus a constant motion is maintained. A ratchet wheel prevents the motor from turning the wrong way, and, by a simple arrangement, whenever the weight is wound right up to the top, the motion is checked by a friction brake automatically applied to the anemometer by the raised weight lifting a lever. When the weight is thus raised to the top, the clock has a sufficient store of energy to go for twenty-four hours, so that it is not by any means dependent on a regular current of air. As this clock receives such a liberal supply of winding, it does not require so long a train of wheels as an ordinary clock. The works of the clock are only connected with the winding arrangement by means of the loop of chain, so that no injurious matters can reach the former from the chimney.

Exchange of Bonds.

The Secretary of the United States Treasury at Washington issued on the 13th inst. a circular addressed to all holders of 3½ per cent "continued bonds," in which, after quoting the 11th section of the Bank Charter Act, approved on the 12th instant (authorizing the issue of 3 per cent bonds in exchange for the 3½s), he says:

Under the provision of this law the Department will be prepared to receive, on and after the first day of August next, at 10 o'clock, A. M., until further notice, any of the bonds issued under the act of March 3, 1863, and 5 per centum bonds issued under the acts of July 14, 1870, and January 20, 1871, continued, as stated above, to bear interest at 3½ per cent per annum, which have not been called for payment by a call therefor, issued prior to the date hereof; and as early as practicable thereafter will issue in exchange therefor a like amount of United States registered bonds, bearing interest at the rate of 3 per centum per annum, as provided by the act approved July 12, 1882.

To effect the exchange the bonds should be surrendered to the Secretary of the Treasury, in accordance with the terms of the circular. They will then be accepted for that purpose in the order of the surrender of them to him, and new bonds, bearing interest at the rate of 3 per centum per annum, will be issued in the same order in lieu thereof.

A letter of transmittal should accompany each package of bonds for exchange, setting forth the purpose for which they are forwarded, and giving the address to which the new bonds and checks for the interest thereon shall be sent.

When the bonds are already in the custody of this department, or any officer thereof, or are transmitted otherwise than with a letter, a letter advising of the proposed surrender should be sent, complying with the requisites for a letter of transmittal, and with such other requisites as the case demands under the regulations prescribed by this circular.

The surrender may be made by mail or express, and not otherwise, beginning on the first day of August next, at 10 o'clock A. M. If made

by mail, the postmaster should stamp, or otherwise mark upon the envelope containing the bonds, or the letter advising of their surrender, the day, hour and minute at which they were received by him. If made by express, the express agent should in like manner stamp or mark the envelope.

Bonds held by the Treasurer of the United States in trust for a National bank may be surrendered by letter addressed to the Secretary of the Treasury, accompanied by the Treasurer's receipts representing the bonds, together with a resolution of the board of directors of the bank, authorizing the Treasurer to assign the bonds.

The priority of surrender will in all cases be determined by the time of receipt stamped or marked on the envelope as above required, except that where two or more envelopes have the same time stamped or marked thereon the first opened at the Department shall have priority.

A transmission of bonds, or letter of advice as to them, will not be recognized as a surrender under these regulations unless there is a sufficient compliance with the requirements of this circular, especially as to assignments and authority to assign.

Interest on the bonds surrendered will cease on the first day of August next, and the new bonds will bear interest from that date.

The envelopes should be addressed to the "Secretary of the Treasury, Division of Loans, etc., Washington, D. C.," and marked "Bonds for exchange into three per cents." The bonds should be assigned to the "Secretary of the Treasury for exchange into three per centum bonds." Where a new bond is desired in the name of anyone but the payee of the old bond, the old bond should be assigned to the "Secretary of the Treasury for exchange into a three per cent bond in the name of" (here insert the name of the person in whose favor the bond is to be issued).

The Department will pay no expense of transportation on bonds received under the provisions of this circular, but the bonds returned will be sent by prepaid registered mail, unless the owners otherwise direct.

The requisite blanks, to be used by National banks and other corporations and institutions to enable them to effect the said exchange of bonds, may be obtained upon application at this office.

CHARLES J. FOLGER,
Secretary of the Treasury.

Anthracite Product of 1882.

THE Philadelphia Ledger says it is now fairly manifest that, large as the anthracite product in 1882 will be, it is not likely to exceed the current demand, and, large as the product will be, it is not probable that it will exceed the year's estimate of thirty millions of tons! This is an immense pile of coal. But the part of all the coal of the world produced in the United States in 1881 was only 63,500,000 out of 205,468,000 tons. As showing the coal increase of the world's production annually, we may mention that the world's product in 1869 was but 104,070,683 tons, from which amount it increased in the ten years following 1869, 100,-

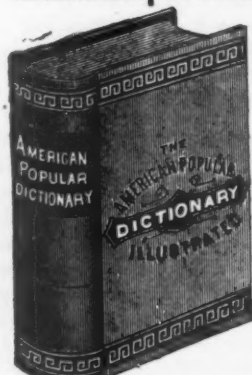
338,917 tons. The increased demand for manufactured iron has materially increased the consumption of coal, and it is stated that during the period from 1869 to 1880, while the production of cast iron increased 61 per cent, the output of coal shows an advance of only 50 per cent. This marked disparity in the ratios of increase is due to the introduction of improved methods of manufacture tending to promote economy in the consumption of fuel. Statistics compiled by the president of the British Iron and Steel Institute show that in 1871 three tons of coal were consumed in the production of one of iron, while in 1880 only two and one-fifth tons were required. It is also estimated that one-third of the coal produced in England in 1871 was used in the manufacture of iron.

The Magnificent Harbor of Sydney, N. S. W.—Port Jackson—is proposed to be bridged, for the use of a railway or tramway. The offer comes from a large iron firm in England, who guarantee that large ships will not be interfered with.

The largest library is the Bibliothique National, in Paris, founded by Louis XIV. It contains 1,400,000 volumes, 300,000 pamphlets, 175,000 manuscripts, 300,000 maps and charts, and 150,000 coins and medals. The collection of engravings exceeds 1,300,000, contained in 10,000 volumes. The building which contains these treasures is situated on the Rue Richelieu. Its length is 540 feet, its breadth 130 feet. The largest library in New York, in respect of separate works, is the Astor. About 190,000 volumes are on its shelves.

Two passenger trains on the New York Central and Hudson River Railroad collided about half a mile below Tarrytown on the 6th inst. while passing each other on different tracks. The windows of the cars were smashed; the sides of the cars almost wrecked. Four men were injured, none seriously. It is stated that it has been found that at the point where the trains met the tracks are so near together that two trains cannot pass each other without colliding. It appears that never before in the history of the road have two trains met at this exact spot.

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OFFICE CENTRAL PACIFIC RAILROAD COMPANY, SAN FRANCISCO, July 12, 1882.

THREE DOLLARS PER SHARE WILL BE PAID ON presentation of Dividend Warrant No. 14 on and after August 1, at this office, or at the office of the Company, 23 Broad Street, New York. Transfer books will be closed from 2.15 P. M. July 15, to 10 A. M. August 3, by order of the Board of Directors.

E. H. MILLER, JR., Secretary.

THE LAKE SHORE AND MICHIGAN SOUTHERN RAILWAY CO.

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The Board of Directors of this company have this day declared a QUARTERLY DIVIDEND OF TWO PER CENT upon its capital stock, payable on Tuesday, the first day of August next, at this office.

The transfer-books will be closed at 3 o'clock P. M. on MONDAY the THIRD DAY of JULY next, and will be re-opened on the morning of Friday, the fourth day of August next.

E. L. WORCESTER, Treasurer.

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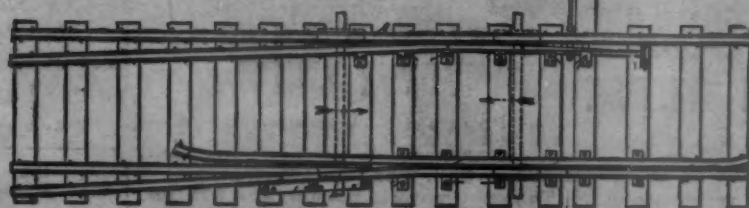
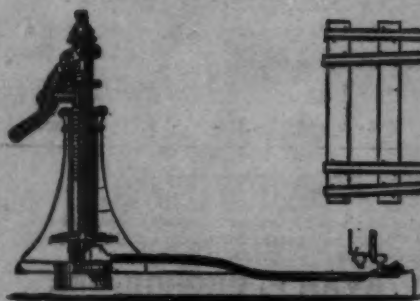
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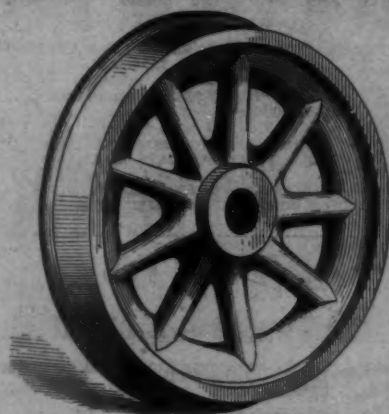
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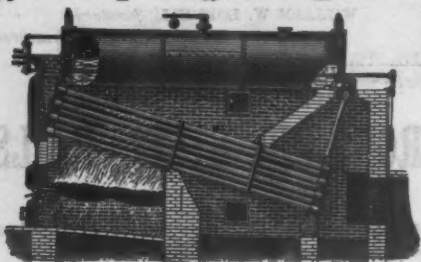
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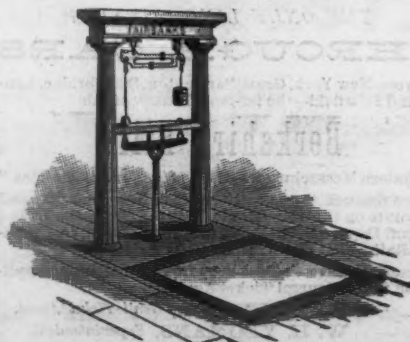
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